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Volume CLXIV No. 2144

The SPHERE, London, February 22, 1941

THE SPHERE

With which is incorporated "THE GRAPHIC"

The Empire's Illustrated Weekly

London, February 22, 1941

ITALY UNDERGOES A NEW WARTIME EXPERIENCE: THE DROPPING OF BRITISH PARACHUTE TROOPS IN CALABRIA

Hitler's unhappy Axis partner has again received a rude shock: the "toe" of her very vulnerable boot has been invaded by British parachute troops dropped from the skies to wreak havoc in a strategically important area. The idea of parachuting troops to earth, which Germany now claims as her "patent," first originated with Russia. It was taken up in secret by the Nazis, who virtually conquered Holland by this means. Now Britain has shown that she, too, can adapt herself to this new conception of warfare. Our parachute troops were dropped in Calabria: and it is now suggested that the raid must have been on a larger scale than was first admitted by the Italians. Whatever the reason, it would now appear that communications have been seriously affected in the region where our men have been dropped. The Italian railway systems here are extremely vulnerable, as are also the electric-power plants and cables. This adaptability on the part of the British authorities to take up new ideas must be taken as still another sign of the virility of the men in control of our military efforts. The picture above—taken in pre-war days—shows how a parachutist drops gently down through the clouds. Further pictures in illustration of this subject will be found on pp. 228-29 of this issue

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A WAR NEWSLETTER—No. 77

1, NEW OXFORD STREET, W.C.1

WHERE WILL IT FALL?

—It is estimated that there are twenty divisions of Nazis fully equipped for a Balkan-Mediterranean drive in the Nazi manner, with headquarters centred at Bucharest. They are massing through Hungary, they have saturated Rumania (with whom we have broken off relationships), and they are fast saturating Bulgaria, which country, at date of writing, is still sitting on the fateful fence which settled the hash of Belgium and Holland. Nazi troops are massed in significant numbers also on the coasts facing Britain, in great force now opposite the Channel narrows, though the bulk of the sea transport for troops is concentrated, where it is less vulnerable to our air attack, in Norwegian, Dutch and Belgian waters. Where will the blow fall first? We are in no doubt that intense preparation is afoot in Germany, for the lull in the air above Britain in the past weeks was clearly not due solely to bad weather. A vast reorganisation of the *Luftwaffe* is proceeding. If the blow fall on Britain, we know exactly what steps we shall take to meet it. We are ready and anxious for it. If it fall first in the Near East or Mediterranean, the public is much less well informed. We know not where the blow could fall, nor what aid from "neutrals" or enslaved nations Hitler can depend on, nor, indeed, what will be the reaction by Russia or by Turkey, should the blow fall on Greece or absorb Bulgaria. We have a general idea that our Fleet and Air Arm would have something to say to a descent by any element on Bizerta or Malta. But we have no notion what our land forces could do to meet any Nazi land advance to Greece or to the shores of the Mediterranean or further East to the vital oil supplies. We realise that Wavell's victories, by their speed, upset one of Hitler's apple-carts, and that Pétain's ca' canny upset another time-schedule. All these matters, of which our leaders must be taking daily and hourly note, are "Greek" to us. All that we, the common folk in Britain, know is exactly what to do and vaguely what to expect, if the first blow fall on Britain; and, broadly, what our Navy and Air Arms in the Mediterranean will do if Hitler try sea and air adventures in Mediterranean waters. But we make up for our ignorance by a robust faith in Mr. Churchill, in Wavell, in Cunningham and the Air Chiefs, and in their opposite numbers on the Home Front.

ELECTRIC BEARD-WAGGING.

—Dear old Gorgonzola gave a long interview to our correspondents from the cabbage-patch where he sat, awaiting transfer to his prison camp. It was not perhaps in the tradition of captured generals, but it was all very friendly and significant. Making allowance for the natural impulse of captured enemies to "suck up" to their captors, there is still a clear lesson to be learned from the reactions expressed by Fascist and even by Nazi prisoners of war. That lesson is that hate propaganda goes no further and no deeper than any other ephemeral Press campaign; and all the vitriol of Gayda and even of Goebbels has made no lasting imprint on the minds of Italian or German soldiers, sailors and airmen. The common soldier, the ordinary citizen, of every country is not created by nature for blind hate of other races, and in warfare common experiences of danger and hardship tend to make enemies (who do the actual dirty and dangerous work) comrades on the stricken field. The hate and vitriol are the perquisites of those who sit at home and move the pieces from armchairs. And all this boring boasting and hate and lying, with which our ears have so long been battered, are truly ephemeral froth which any wind can blow away and any rain melt. And it seems to me that the weakness and rottenness and ignorance of the Nazi leadership is nowhere so damningly proved as in its stupid inability to recognise at this late hour the boomerang qualities of boasts and threats and the ephemeral and futile qualities of a campaign of international hate. All these curses come home punctually to roost where the cockerels perch.

BRITAIN'S FOREMOST SOLDIER AT WORK AT THE WAR OFFICE: General Sir John Dill holds the highest military post in the War Office: his official designation is Chief of the Imperial General Staff, but, in effect, he is the Commander-in-Chief of the British Army which is to-day several millions of men strong. Sir John was born on Christmas Day sixty years ago: he was educated at Cheltenham and Sandhurst, and entered the Army just in time to fight at the end of the Boer War. He ended the 1914-1918 War as a very young Colonel on the Staff. He has held every command in the Army—Aldershot, the Staff College, and the Imperial Defence College, where only the best is good enough! Here Sir John Dill is seen with his Vice-Chief, Lieutenant-General Sir Robert Haining, in conference in the former's room at the War Office. The portraits on the wall show some previous holders of Sir John's post dating back to Field-Marshal George Wade

DOMESTIC FUEL SCANDAL.

—In the past seven months the price of ordinary furnace coke has risen from the monstrous figure of 53s. 7d. to over £3 a ton. The record of the Mines Department, after the lessons of last winter, seems, on the face of it, to be one of the failures of organisation of this war. While the difficulties of transport and the needs of war industry must not be underrated, there is a clear *prima facie* case for a charge of shortsightedness and lack of initiative, vigour and purpose. There is only one consolation. We do not often pay the price—the exorbitant price—which the Mines Department continually compel the coal factors to levy. Every demand for coke is met by a notice that the price is raised again. It is seldom met by a delivery. So we do not pay for coke; perforce, we go without. But that "consolation" does not acquit the Ministry of Mines. It seems in Southern England that the Local Associations have only to approach the Ministry to secure increases in the price of this by-product to their taste, with (still more local) variations arbitrarily fixed by them, and nothing that merchants or domestic consumers may urge against these arbitrary increases receives consideration or hearing. In many districts, the commonest coke is now over £3 a ton. This looks like a bad example of the tyranny of a monopoly.

THE GAS TURNS LOW.

—Talking of *Gas*. We grimly and gaily declare that we have other things more important to think about than personal property. We wave a gay farewell, if need be, to our cherished bits and pieces and household gods if the breadbasket of fire claims them, and we don't worry much about investing or planning for the future. Nevertheless, the present remains and has to be faced. We are still compelled to try to make both ends meet, and it is not always easy. The London gas companies sprung on some of us the other day a rude and sudden shock. Their preference and "fixed" dividend ordinary stocks have so long been regarded as "widows' and orphans'" fit investment fare that it was a very real surprise to learn so suddenly and with so little notice how hard the blitz on London has hit these conservatively run companies. They themselves were clearly caught bending, for "interims" were paid as usual on some of their stocks, and no hint was given that when final dividends came to be settled, the ordinaries would be "down and out" for the first time in memory, and the preferences, so long regarded as gilt-edged, yield us nothing, perhaps, any more for and beyond the duration. Where shall we seek consolation? Only in the same article (gas) under another meaning.

A TWO-EDGED WEAPON.

—I have no doubt that in any attempt to invade England, the Nazis, if they thought it would pay, would use poison-gas, and it is proper that we should inspect our gas-masks and take all precautions. Yet, we may remember that the invaders themselves must live and fight in the same country which they poison with gas fumes, and that poison-gas has once before proved to them a double-edged weapon. Two can play the filthy game, which has boomerang qualities with a mere shift of wind. In the past years the Nazis have proved their qualities as purveyors of poisoned gas in all its forms, and I still take a little comfort from the fact that they have already found the dubious advantages alike of the chemical and of the propaganda forms. Both of them too often and too swiftly come home to roost. I suppose no more impressive instance in history, alike of the power and of the risks of boost and gas, can be found than in the short history of the Fascist Empire. The whole structure was founded on empty boasts. Those boasts were believed by Great Powers and small Powers. The building assumed huge and menacing and even dignified proportions, as Ansaldo and Gayda threatened and boosted and screamed. Then the wind blew from the West, and, long before it reached gale force, the façade collapsed and the boosters substituted wails or silence for glorifications. And all the watching world blushed to realise how it had been bamboozled and dazzled by gas-flares.

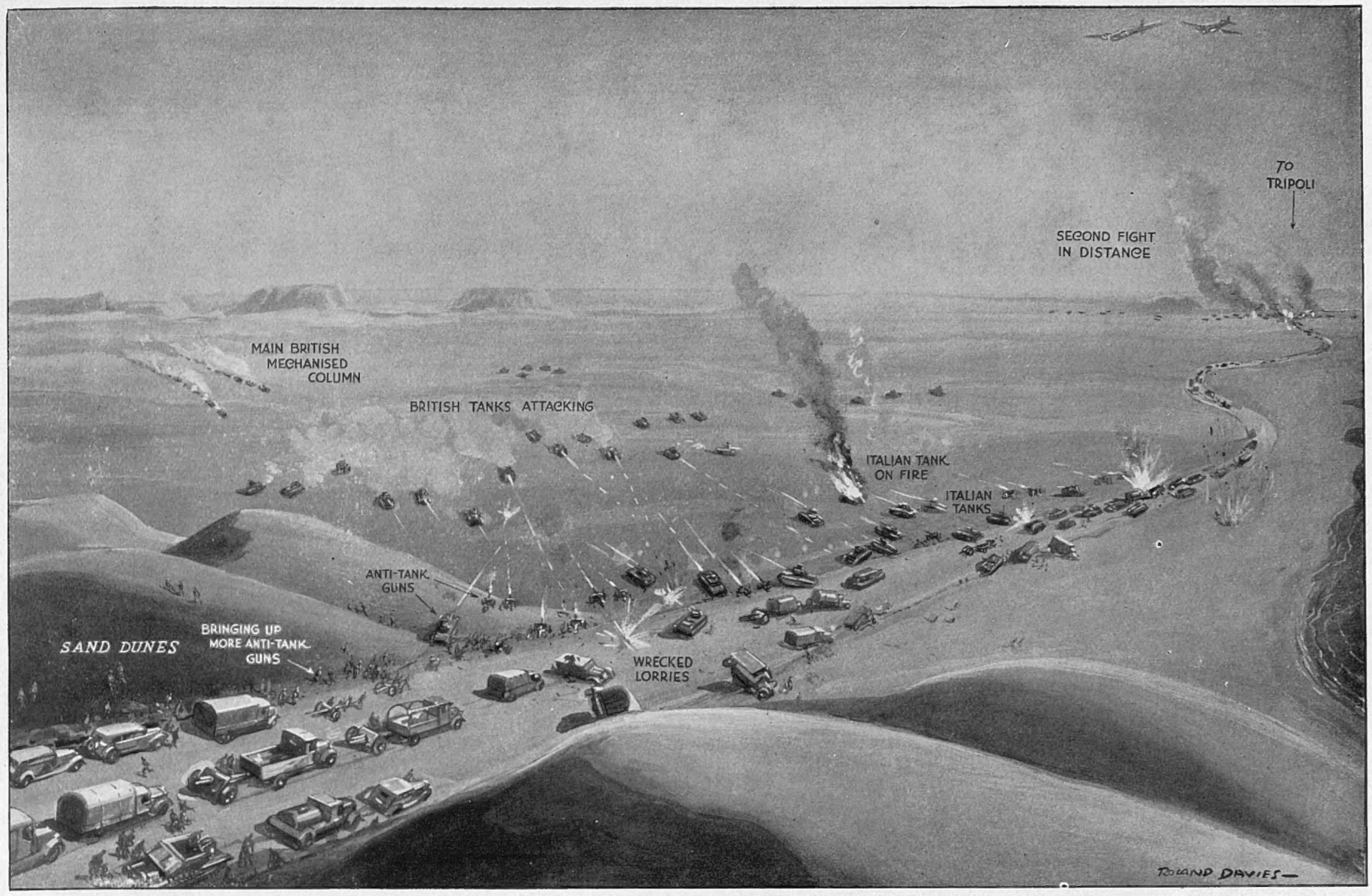
PLANNING AHEAD IN CLUBLAND.

—The London clubs, at any rate, should now consider their "peace aims," and plan for the future. They have indeed in the past ten years and more known hard and anxious times. Some won through to modified, if not established, security. Some fell by the wayside, as a result of the financial stringency which followed the late war. Many clubmen even then shook their heads at the policy of their committees and regarded it as shortsighted. They felt that, whether or no (in the '30's) another world war was inevitable, economic and political conditions in England in their time would never justify a return in Clubland to the standards of living and to the manner of thought and fashion which was "all very well" for the Edwardian age. These doubters and critics were aware of the dilemma which faced the Pall Mall clubs. There were the classic buildings erected in a gracious age for men of means and leisure, buildings with famous and noble libraries and saloons and an environment designed for graceful living, but terribly expensive to maintain—and not easy to part with. Even in the early '30's clubmen considered that Pall Mall could no longer support this graceful standard of existence. Some few clubs parted with their noble houses and migrated to smaller residential premises. Others cut down drastically the scale of expenditure on "frills." Such things as velvet breeches and silk stockings for club waiters, the widest range of expensive stationery, a plethora of periodicals, and many other comforts, pomps and vanities, which could be supported in Edwardian days with a 2s. Income Tax could no longer be justified after 1918. All club committees made economies, perforce; but in many cases a *nostalgie* for the dead past crept in to prevent sound economy and trenchant reform. The knee-breeches came back, the stationery was as glossy and redundant as ever. Even those old-stagers who disliked the idea of seeing their classic houses compartmented for cocktail bars and squash courts, or sub-divided to provide ladies' quarters, shook their heads over schemes of improvement on the lines of the spacious days

THE COUNTRY MEMBER.

—The wisest committees went furthest in economies and retrenchment. The life-blood of their revenue, they clearly saw, was derived from an influx of young candidates and the retention of their list of country members. To ensure a supply of the former, they saw the need to keep down the subscription and to meet the demands of a new generation of club users by providing such modern requisites (bedrooms in particular) as would harmonise with the traditions and character of the club; and to retain the support of their country membership, time out of mind the patient Atlas of the club universe, by reducing the subscription (despite the dangerous loss of immediate revenue) for those who are prepared to pay for services they do not often enjoy or demand. Those committees who to-day believe that Clubland will one day be restored to its former state are, in the opinion of many, insane optimists. It is at least impossible to believe that for ten years to come—whatever the result of the war, whenever the end, whatever its effect on the fabric and fittings of club-houses and on the lives of its existing members—any London club can hope to find 200 country members willing to pay £16 to £20 a year for the privilege of a fortnightly luncheon. Nor is it easy to believe that, in the stringent decade ahead, there will be found waiting-lists of young men ready to find such an annual subscription for the cloistered pomps of Clubland such as suited their grandfathers in days of leisure and privilege. If these old clubs are to retain their bare identity their committees must lose no time in planning ahead for radically changed conditions and must be prepared to scrap things more important than powdered footmen and other superfluities of luxury and show.

THE OLD STAGER



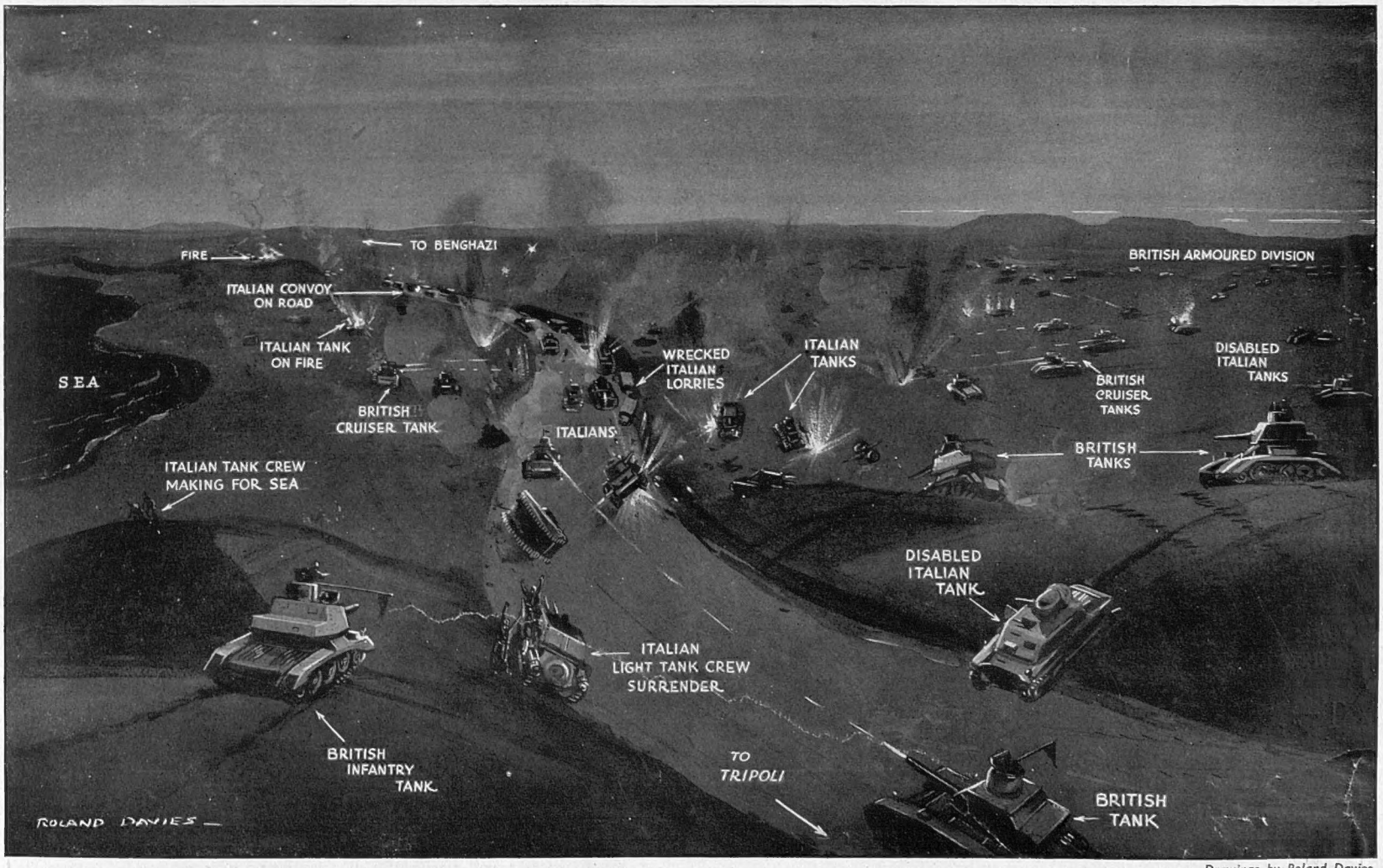
THE NEW TANK TECHNIQUE

DEMONSTRATED in the GREAT BATTLE FOR BENGHAZI

How the British Wedge was Pushed Between the Retreating Italian Columns

BRITISH TACTICS IN TANK WARFARE, AS BRILLIANTLY EXEMPLIFIED IN THE BIG BATTLE FOR THE CYRENAICAN CAPITAL OF BENGHAZI

The greatest tank battle of the present Libyan campaign took place on the Benghazi road during the three days, February 5 to 7. It demonstrated the superiority of the swift-moving technique which had been previously rehearsed in the desert by the British Imperial Tank forces. The battle opened on the 5th, when the first units of the British forces got across the road or manœuvred by its sides. The Italian forces outnumbered the British 5 to 1, but the tank columns took on the enemy columns as they appeared. Column after column was on the road, each headed by a powerful tank spearhead. Into these the British drove, carving out a wedge which split the main enemy column into two. In this drawing some of the initial movements are shown in diagrammatic form. Eventually the battle extended for some ten miles. On the 6th a running battle ensued, 50 enemy tanks being blown out of action. Column after column of enemy tanks appeared, each being tackled as it advanced into the mêlée. Running fights ensued, in which British speed of manœuvring took a deadly toll. At last the enemy made a frantic dash to break through as night fell on the 6th, only to find the road blocked by another British force using anti-tank guns with deadly accuracy. Twenty tanks were on the Italians' tail — surrender was the only possibility, and on the 7th the battle was over

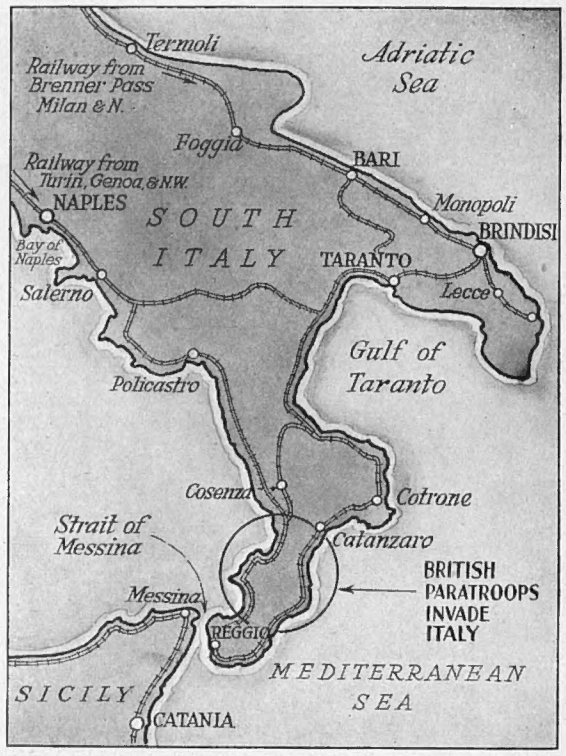


Drawings by Roland Davies

AS THE DARKNESS FELL, THE ELEMENT OF SPEED WAS EMPLOYED WITH GREAT SUCCESS AGAINST THE ITALIANS: British tanks—evidently working to pre-arranged tactics, took on enemy columns headed by ten, twenty, or thirty tanks, one at a time, and defeated them. The Italians made a last gigantic dash to break through, but were met with another force of anti-tank guns blocking the road

PARACHUTE TROOPS Again in the NEWS

But this Time it is BRITISH Parachute Troops—Who have Demonstrated that the Germans have Not Got a Monopoly of this Newest Form of Warfare

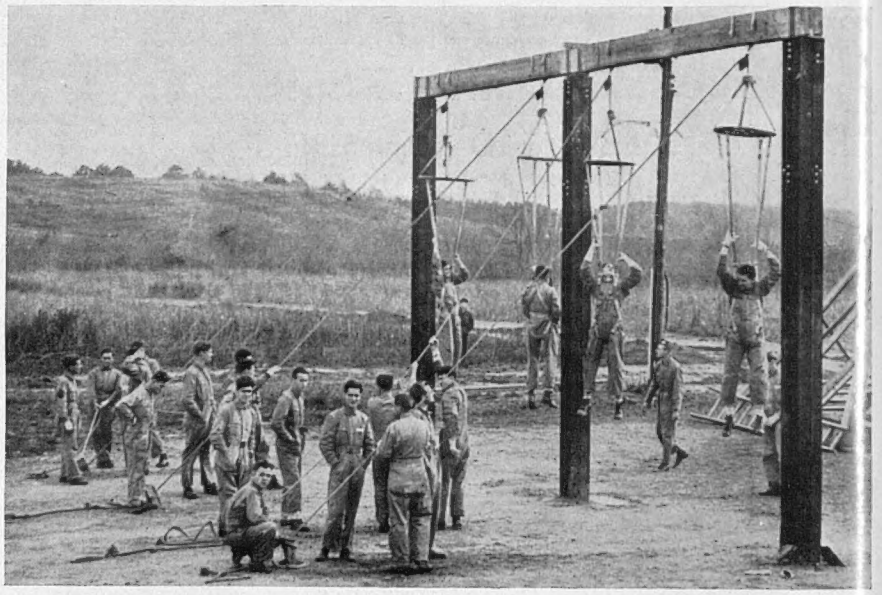


THE REGION WHERE IT HAS BEEN REPORTED THAT BRITISH PARACHUTE TROOPS HAVE BEEN DROPPED : This portion of Italy—right in the "toe" of that country—is very vulnerable to attack by men dropped from the skies—for it is here that her rail communications with Sicily and her big electric-power stations are susceptible to this form of warfare. It will be observed that this area is surrounded by the sea—from which the attacks could be launched and by means of which the parachute troops could be taken off again if they avoided capture whilst carrying out their allotted tasks

SCORES OF PARACHUTISTS DROPPED FROM THE SKIES AT ONE AND THE SAME TIME : A PICTURE TAKEN DURING EXERCISES BEFORE THE FALL OF FRANCE

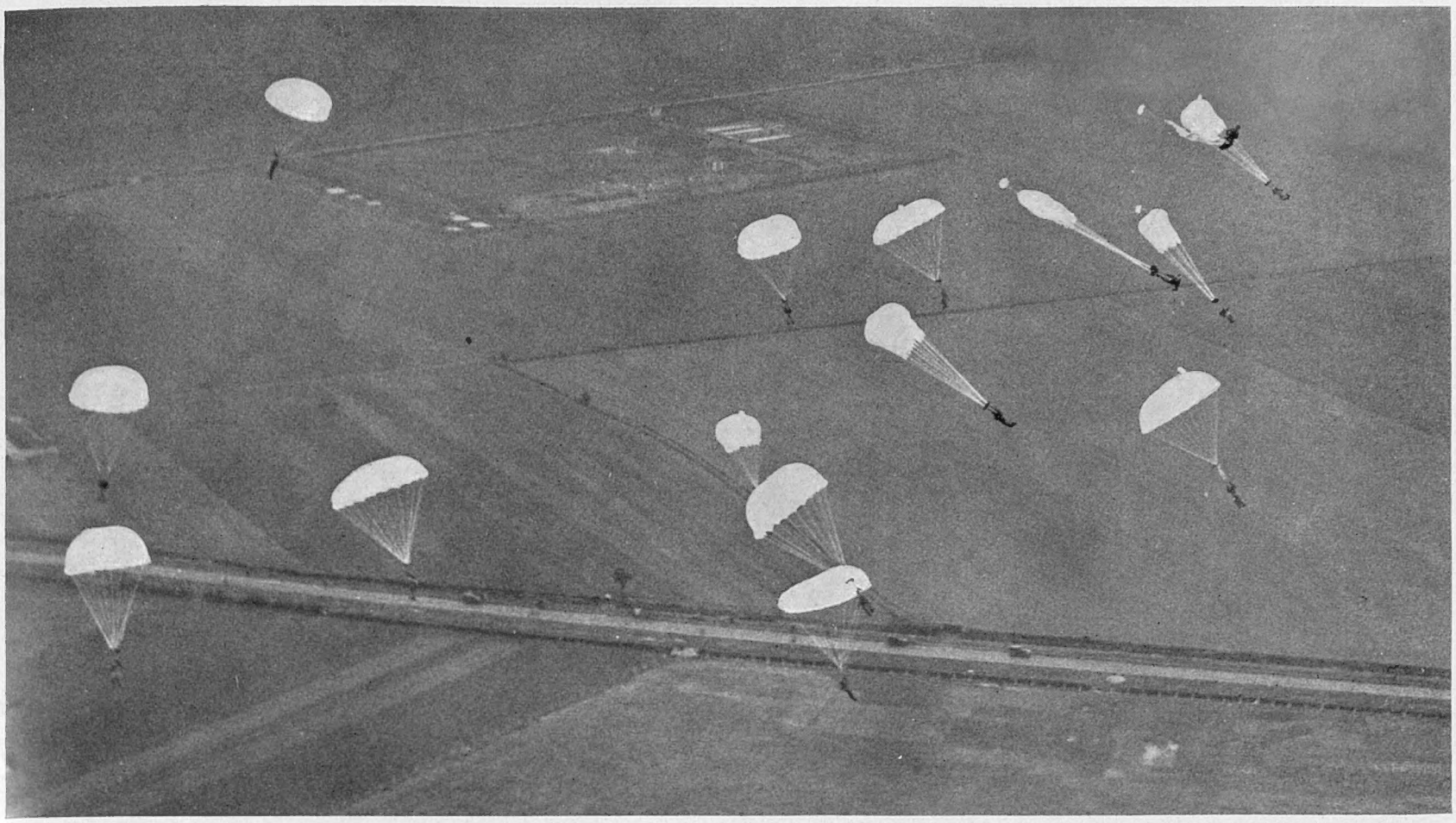
THE Germans are claiming that we have infringed one of their "patents" by landing parachute troops in Italy: but the idea of this form of warfare emanates from Russia, not from Germany. Most of the big Powers to-day (even Japan!) are now training picked men in this newest method of penetrating behind the enemy's lines. Obviously no details are at the moment being given of British plans or methods of training. Italian accounts say that our parachutists wore battle-dress and R.A.F. hats; which probably means that they wore crash-hats such as are worn by Italian aviators and our racing motor-cyclists, but *not* by our R.A.F. Parachutists are quite likely to land on their feet and pitch over and fracture their skulls. In the United States, where similar bodies of men are now being rehearsed in parachute warfare, it is known that the parachute battalions have specialised and complete equipment: each Company

AMERICA, TOO, IS TRAINING PARACHUTE TROOPS : After having parachuted safely to earth, the soldiers have set up a light machine-gun and are ready to repel attack with their pistols. In the background a latecomer is cutting himself loose from his pack



THE GROUND TRAINING BEING DEMONSTRATED BY U.S. TROOPS : On the left, the men, suspended from fixed parachutes, practise turning left and right and learn to lift themselves preparatory to striking the ground. On the right, the men, suspended from a parachute attached to a form of scaffolding, practise the manner in which a jumper should strike the ground at an angle

MEMBERS OF AN AMERICAN UNIT FULLY EQUIPPED AND WEARING A TYPE OF NEWLY-DEVELOPED "PLASTIC" HELMET" : A head-covering of this sort is essential, else the parachutist stands a very good chance of doing himself a serious injury. Following the successful example of Soviet Russia and Germany in the use of parachute troops, the United States Army is now experimenting with a Battalion formed for the same purpose—the 501st Parachute Battalion at Fort Benning, in Georgia. Members of this newly-formed unit have just demonstrated their technique and training methods before officers of the National Guard, when four of the pictures reproduced on these pages were taken



EVEN BEFORE THE WAR BRITAIN WAS EXPERIMENTING WITH PARACHUTE TROOPS : This picture was taken in May 1939—long before German methods were demonstrated in actual warfare. It shows twenty-four parachutes being dropped at one and the same time during a demonstration carried out by the R.A.F. at Henlow. The demonstration is the more impressive inasmuch as it shows how a great number of determined men can be dropped almost at the self-same spot—so that on landing the invaders can present a solid and compact mass to the enemy when he arrives some little time after their successful landing

THE FIRST JUMP FROM AN AEROPLANE IN FLIGHT : American parachutists carrying out manœuvres in the new warfare in Georgia, U.S.A. Here they are making their first real jump

consists of 117 picked men, and there are 9 bicycles, 87 automatic rifles, 10 sub-machine-guns and 9 light machine-guns to a Company. In addition, all the men carry revolvers. Our own troops—such as took part in the landing in Calabria—are said to have had hand-grenades and sub-machine-guns. The landing has, undoubtedly, given the Southern Italians their biggest scare yet. The strictest orders have been issued by Mussolini, and practically the whole local Fascist Party has been mobilised to counter any possible further attacks

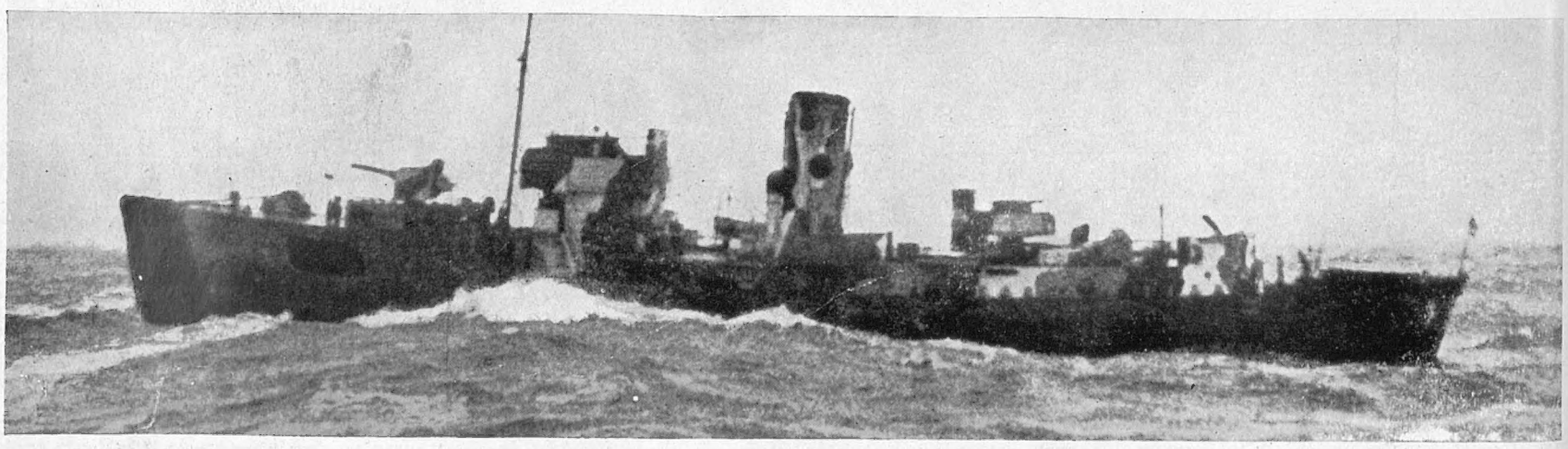
THE GERMAN INVADERS WHO HELPED TO FORCE HOLLAND INTO SUBMISSION : These tough-looking desperadoes were landed by parachute in the Low Countries during May 1940 : the picture shows clearly their characteristic rimless steel helmets, bandoliers and sub-machine-guns. Gabardine overalls were worn over their uniforms, and automatic pistols and binoculars were also worn. The German parachutists played a very large part in Holland's downfall ; and all sorts of blood-curdling stories were put out concerning their prowess by the German Propaganda departments—presumably to scare us all into quick surrender !

PROBABLY DROPPED BY PARACHUTE AT DUNKIRK : A Nazi Fifth Columnist after his arrest by a French Marine. This man, garbed as a civilian, had probably been parachuted down from a German plane. His garb was evidently intended to be considered as that of a Frenchman or Belgian !

THE MEN WHO SUBDUED FORT EBEN EMAEL AT LIÉGE : These parachutists actually dropped on top of the fortress and no method of driving them off could be devised by the Belgians. The surrender of the garrison inevitably followed—an occasion which is probably unique in military history !

THE R.A.F. RAIDS ON THE INVASION PORTS: A GRAPHIC IMPRESSION OF WHAT THE DAY AND NIGHT AERIAL BOMBARDMENT MEANS — AN OFFICIAL AIR MINISTRY PHOTOGRAPH OF BOULOGNE HARBOUR DURING A HEAVY ATTACK

For months now—since last September—the French Channel ports (the "Invasion Ports" of the daily press) have received an uninterrupted pounding from the Royal Air Force. Night after night watchers on the English coast have seen the line of coloured lights denoting yet another attack on Calais, Boulogne, Le Touquet and the rest. Bomb explosions, parachute flares lighting up the sky, anti-aircraft shells, burning barges and dumps—all have added their quotas to the pyrotechnic displays. The havoc wrought along the whole coastline of Occupied France must be enormous: undoubtedly the never-ending attacks have seriously hindered German plans for the Invasion of Britain. And the attacks by the R.A.F. do not cease either by day or by night! This official photograph, just released by the Air Ministry, was taken during a recent raid on the shipping and small craft in Boulogne Harbour. Direct hits can be seen, and fires just started are visible in the dockside buildings. The long, narrow vessels along the quaysides are probably the flat-bottomed barges of which we have heard so much



THE NEW WARSHIPS WHICH ARE TO COMBAT THE SUBMARINES: A CORVETTE, BREAKING THROUGH HEAVY SEAS WHICH CAUSE HER TO PITCH AND ROLL, TAKING UP HER POSITION AT SEA TO PROTECT ONE OF THE BRITISH CONVOYS

The Corvette is one of Britain's replies to the German submarine menace. Here is one of this newest type of Royal Naval vessels, which is already playing a big part in the fight. The Corvettes carry a crew of between fifty and sixty men: although they are smaller and less speedy than the destroyer, they are armed with the same anti-submarine weapons. Constructed to withstand the worst weather, these craft are now being built in slipways in this country and in many shipyards of the Empire. The crews are specially picked men able to withstand the hard life of constant action under the foulest conditions. In a heavy sea the Corvette is not a stable craft, but the hardy crews are well able to stand up to her rough motions!

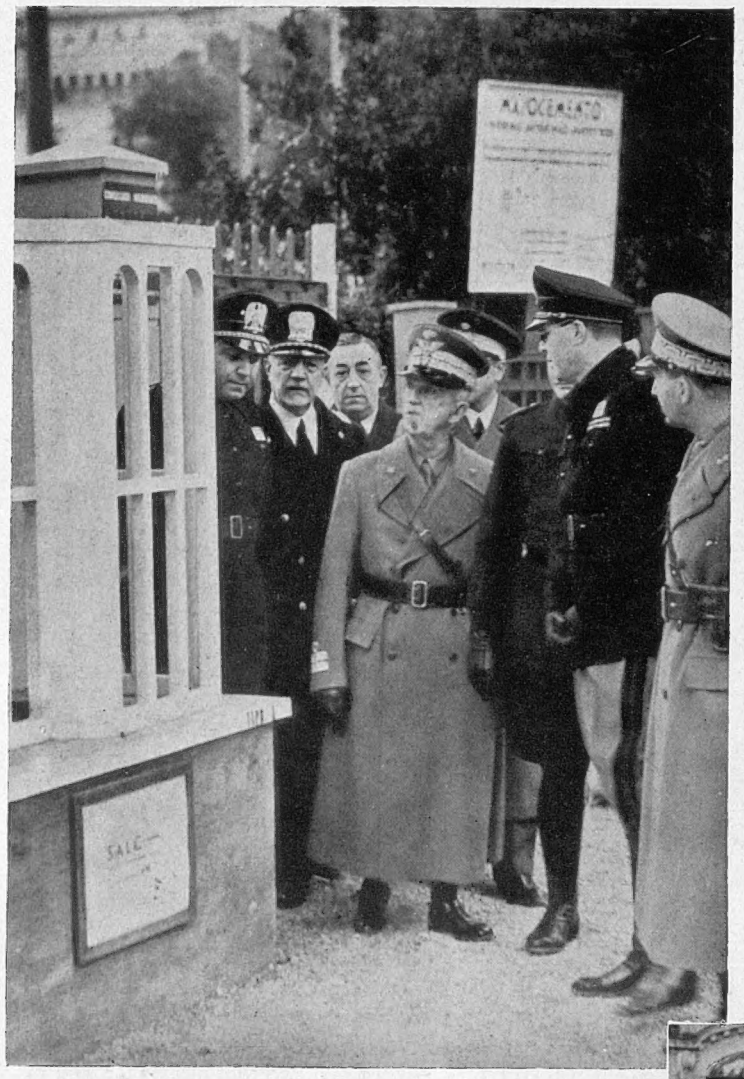
THE AUSTRALIANS HELP THE DESERT FOLK OF CYRENAICA: SUPPLYING THE NATIVES IN THE CONQUERED TERRITORY WITH VERY PRECIOUS WATER AT ONE OF THE WATER POINTS NEWLY ESTABLISHED BY THE ARMY IN THE DESERT

Now that the whole of the huge province of Cyrenaica has been taken over by our troops under the administration of General Sir Maitland Wilson, the Libyan natives are beginning to appreciate the difference between British and Italian methods. During its "pacification" by the infamously cruel Marshal Graziani, Libya must have been one of the worst-treated colonies of modern times. The "Butcher" has admitted thirty "executions" per day—though in the opinion of qualified observers this is a gross understatement. Already the British and Imperial Forces are helping the desert folk, and many of the new arrangements for their benefit are being greatly appreciated. The Australians have made a number of water points at barren spots and are supplying the local tribes with free water—the most priceless of all commodities in the desert. Here the native men and women are receiving their ration in petrol cans

IN THE HEART OF ABYSSINIA: A BRITISH NON-COMMISSIONED OFFICER KEEPING IN TOUCH WITH HIS BASE BY WIRELESS WHILST OPERATING WITH ETHIOPIAN TROOPS IN THE ABYSSINIAN INTERIOR

Beset on all sides in East Africa and Abyssinia, the Italians are in a precarious position—which will become even more precarious should widespread revolt develop in Ethiopia. Operating right in the heart of that country at this moment is the 1st Battalion of Ethiopian troops recruited by the Emperor. These are led by an Australian officer and by four Australian N.C.O.s: they are fully armed and trained to fight for their country—in contrast to the time when they were called upon to resist the Italian invader, armed with all the appurtenances of modern warfare, when the defenders were armed only with spears. Thousands of camels, too, are pouring into the country bringing up supplies and ammunition—to help harass the enemy and attack his positions. Whilst in the field, operating at hundreds of miles from their base, these troops all keep in touch with headquarters by means of the indispensable radio

FACTORS in the BALKAN MIX-UP

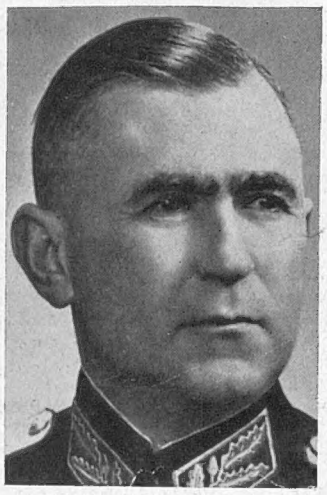


KING VICTOR EMMANUEL OF ITALY MAKES ONE OF HIS RARE APPEARANCES : Long suppressed and completely overshadowed by Mussolini, the King of Italy has made but few appearances in public for many years. Since the war, however (probably owing to Il Duce's waning popularity amongst the people), the King has been seen somewhat more often. Here he is seen approving "a new type of gate." Efforts are being made to conserve iron throughout Italy and have led to the use of substitute materials

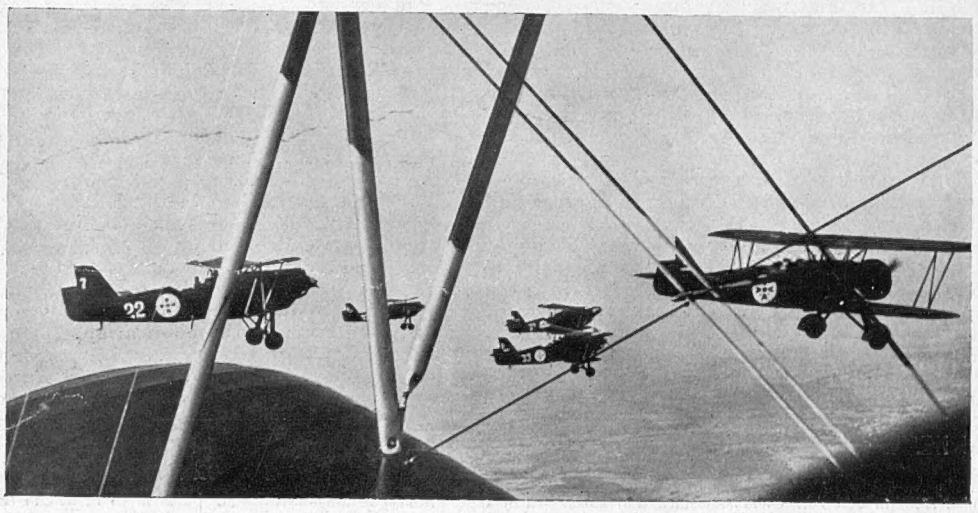
OFFICIALS OF THE RUMANIAN LEGATION IN LONDON LEAVE FOR HOME : Now that General Antonescu has virtually handed over his country to the Nazis, Britain has had no choice but to sever diplomatic relationships with that unhappy country. First carved up between Russia and Bulgaria, and with Hungary also waiting in the wings for her share of the spoils, Rumania is now virtually a German province. These Rumanian officials at the Legation in London are here seen at the commencement of their journey back to Bucharest : they are Captain N. Tenescu; A. Nicoial, Secretary to the Naval Attaché ; I. Felea, Secretary to the Military Attaché ; and V. Barby, Captain Tenescu's Secretary

THE TWO MEN WHO WENT TO BERCHTESGADEN : M. Svetkovitch, Yugoslav Prime Minister (on left), and M. Cincar-Marcovitch, Yugoslav Foreign Minister, who have followed the well-worn path to Germany to receive the inevitable harangues from Hitler

KING BORIS OF BULGARIA REVIEWS HIS ARMY : The Bulgars are splendid fighting men—but their sympathies are not with the Nazis, no matter what attitude their rulers may take up as a result of the pressure now being put on them by the Germans. It is likely that, even if German troops pass through their country, the Bulgars themselves will remain out of the conflict. King Boris at the moment seems not unlikely to make a similar mistake to that made by his father—"Foxy Ferdinand" of the last war—who lost his throne but who is still alive and reputed to be advising the Nazis on Balkan affairs. The troops seen here are mountaineers, with their guns carried on transport mules



THE BULGARIAN PRIME MINISTER AND WAR MINISTER : M. B. Filoff (on left), who is reported to be unpopular with the Nazis, who would like to see a change in the Premiership ; and General Daskaloff, who has charge of the Bulgarian Army as Minister for War



BULGARIA HAS AN AIR FORCE : But it is very small and, judged by modern standards, woefully antiquated. It could never stand up to the great numbers of modern fighter aircraft and bombers—all very much faster and better armed—possessed by both Germany and Britain

MR. WENDELL W. WILLKIE: President Roosevelt's opponent in the Presidential Campaign, who has returned to New York after his tour of Britain

COLONEL WILLIAM J. DONOVAN: "Wild Bill," who is even now on a tour of Europe and Turkey-in-Asia, undertaken on the President's behalf

MR. HARRY L. HOPKINS: Special Envoy to Britain, who has now gone back to the United States after having "lived" with Mr. Churchill here

MR. JOHN G. WINANT, THE NEW U.S. AMBASSADOR TO LONDON: Aged fifty-one, Mr. Winant is a former Governor of the New England State of New Hampshire. At President Roosevelt's own invitation he went to Geneva in 1935 to become Assistant Director of the International Labour Office: he became its Director in 1938. A pilot in the last war, Mr. Winant is married to a very wealthy wife

ENVOYS from the UNITED STATES
—*AND OURS*

By FERDINAND TUOHY

MR. WILLIAM C. BULLITT: Formerly U.S. Ambassador to Moscow, he later became Ambassador to Paris. After the German occupation of that city, he remained on for a time until he was recalled

ADMIRAL WILLIAM DANIEL LEAHY: A former Commander of the Battle Force of the U.S. Fleet, who is now the U.S. Ambassador to Vichy. His influence with Marshal Petain is said to be considerable

ANGLO-AMERICAN diplomatic failure to warn of the risk of utter French collapse, and of causes, underlined two weaknesses at latter-day British and United States Embassies.

Ours would not mingle sufficiently with the popular life nor sink to such things as analysing the Egerias of foreign statesmen, nevertheless so important, while Mr. Bullitt, becoming too blinded by affection for France to see her as she was, typified an emotional instability not restricted to Paris, among U.S. Embassies in Europe.

The appointment of Mr. John G. Winant to London, coming on top of that of Lord Halifax to Washington, and of the "observing" of Messrs. Hopkins, Donovan and Willkie, should therefore do more than provoke the usual personality stuff and pious hopes. It should cause us to envisage something quite big and new.

When the Nazis wail that "American-British policies are becoming so linked together that Roosevelt is exercising through his diplomats a pressure on different European peoples in Britain's favour," they speak the truth, save that it isn't a case of pressure, but enlightenment, the same as prompted Ambassador Leahy to try to tell France from Vichy that America believed Britain would win.

That this temporary fusing of American and British diplomatic effort will exert an unpredictable effect on the course of the war is sure; but it will also do something else. It will bring the foreign services of the two countries extremely close together, when the resultant "playing ball," or thorough concerting, should reveal that where the American is lacking, the Briton is often sound, and *vice versa*.

As with France, where, had the anchored sentiment ("cool detachment") of the Briton been traded for the "popular mixing with the natives" of the American, something better must have eventuated. Not that four British Ambassadors to France in five years enhanced steadiness of perception. Conversely, however, the pursuit of the low-down by Mr. Bullitt's staff was overshadowed by that envoy's hanging upon certain French leaders.

From this it is but a step to grabbing the chance that offers of building up a more complete diplomat by association of the two types and systems. Democratic diplomacy is still in the making after its rebuff of "open covenants openly arrived at," and Heaven knows there will be enough vacant chairs to be filled round Europe after the war, and sufficiently loud calls for new diplomats for old.

In his *Diplomacy*, Mr. Harold Nicholson broached matters by hinting that British envoys could well divert some of their over-optimism ("confused, irrational, non-committal, elastic") to their American opposites, apt to be pessimists "overwhelmed with diffidence and suspicion."

He went on to say that United States diplomacy bred too many amateurs, products of "the spoils system," and that amateurs were liable to vanity.

I am sure many will fix their thoughts when I quote further of the envoy who "takes too personal a view of his functions" and "has too many convictions, sympathies, impulses"; who pursues "bright ideas" and "dramatic aspects," thereby mislaying precision; and the briefness of whose tenure of his post makes him over-zealous, not least in keeping on the front page at home.

These are flaws that have been admitted to me by United States staffs in Europe—and, by the way, when Mr. Nicholson generalises the American diplomat as "reasonable, resourceful, well-informed, accurate, reliable," my first thoughts go to the Chargés d'Affaires and Secretaries.

Too many of the higher-ups have lately been of the millionaire "socialite" category, or excitable intellectuals, while the practice of appointing women has not been rewarding, as Scandinavia finally showed.

Mr. Winant may be high in the Social Register, but he also happens to be an earnest student of international affairs and a very genuine person, as was testified by his abandoning a rich life of ease for an I.L.O. post at Geneva. I should say he corresponds well to Mr. Nicholson's ideal of a "reasonable and humane sceptic."

Though why New York's Mayor, La Guardia, should salute Mr. Winant with "He is not a career man, and thank God for that," is hard to determine. Actually it is a cause for regret that the career system introduced seventeen years ago has not displaced more of the political appointees who at the outbreak of war were still in the proportion of fifty-fifty, top-heavily present in Europe.

I know I am backed by knowledgeable Americans when I say that nominations of this kind should be further curbed. As one United States "Chargé" observed: "Our system casts away experience often dearly bought. No sooner are these amateurs getting wise than there's a change of Party at the White House, and away they are whisked. This is a whole-time job. People can't just flit into it because they happen to be this and that.

It is plain, then, that the United States system can profit by assimilation from the British. Clearly this promotes more continuity and background, while, say what you will even of our old "seniority birds," these are impervious to the ebb and flow of home politics (as was proved when Mr. MacDonald came to power), do not conduct their embassies with an eye to future advancement in other walks, and are no emotionalists.

Yet the very fact of their being career men to the end generates a playing for safety, a stodginess, an uninspired reliability, an upward-glancing to routine advancement and to the biggest pension.

American envoys don't believe in ivory towers and aloofness, but in stepping out in the countries of their accrediting. They are not ashamed to make their own country known, nor to provide a living and corrected picture for local popular consumption. They really do cultivate art, sport, letters, industry, and the provinces.

Newspaper correspondents are seen and, if possible, used, not left closeted with the butler. American Embassies are made rallying centres for visiting Americans and even for some of other nations, who are not divided into small and big fry according to money or family, but are accorded attention in proportion to their worth to their country.

None look after their own people abroad better than the Americans, the agency of this care being the so-called "Trouble-shooter," usually the Chargé d'Affaires.

American envoys are good mixers, and their establishments are in closer contact with "the natives" than are ours. They push their own industry and commerce more daringly than we do. There is something alive and vital about an American Embassy or Legation, which readily constitutes itself a fount of information—and not only for United States citizens. How often has one heard British business men asking to get contact with the Americans because their own show has been a wash-out?

Our staffs complain that they are not given sufficient funds to make a proper job of it, but the Americans have that grouse too.

American and British diplomats have a deal to give one another, and their respective countries stand to gain now and in the future by their doing so. They set off from a common starting-point, having the same ideals and methods, and both being commercially-minded as distinct from the "warrior type," which Mr. Nicholson portrays for the German, and from the mobile and deceitful trend of the Italian, and the rigidity (and heretofore haughtiness) of the French.

Strengths could be exchanged and flaws remedied. Thus we should bring the Consular into the Diplomatic Service, as the Americans have done, and the Americans could borrow from us in regard to less trans-ocean telephoning, "Clippering," and hectic and frequent absences from their listening-posts.

A new Anglo-American diplomatic type might be evolved, better suited to rough and novel courses and more than capable of outwitting and outplaying exponents of "all-in" diplomacy who have had such a lengthy innings. "Active and up-to-date" Lord Lothian pointed the way to this new composite type.

b

The LIBYAN COLONY CONQUE

Scenes in Cyrenaica which was to have Roman Empire in North Africa, Dreamed

HOW ITALY COLONISED HER LIBYAN TERRITORIES : THE MASS LANDING OF COLONISTS ON THE SHORES OF NORTH AFRICA : Since his accession to power, Mussolini has been pumping thousands upon thousands of agricultural labourers and their families into his colonies. Mass transportations of these took place from Genoa and other ports and were made the occasions for general popular demonstrations. Here are some of the colonists—husbands, wives and children—upon arrival in Africa and awaiting transportation to their destinations

ALONG THE MAIN ROAD THROUGH THE DESERT : Every sixteen miles along the military road to the Egyptian frontier stand wardens' huts with petrol pumps. The women and children of the caretaker serve the latter. These stations were intended also to serve military purposes in wartime

THE ITALIAN COLONIST FAMILY ARRIVES AT THEIR NEW HOUSE IN LIBYA : Here everything has been prepared in advance for their reception : and stretching out across the hundreds of miles along the coastal areas were thousands of such spots. The house is all ready for immediate occupation ; a wall encloses the farmyard ; there are large cattle sheds and barns, all ready and installed with everything necessary for immediate use. The house is furnished ; and the settlers can begin their agricultural labours right away, without an hour's delay !

ONE OF THE CENTRES OF GOVERNMENT : The Colonial Government building at Benghazi—which was one of the two Italian capitals in Libya

The campaign in the Western Desert has proved the doom of one of Mussolini's most cherished projects—the colonisation of North Africa and the re-creation of many of the glories of the ancient Roman Empire. His schemes for this project were on the most ambitious scale, and hundreds of thousands of selected agriculturists and farm labourers were transported to Libya : on occasion these mass departures were often taken as the pretext for huge displays of national fervour. Under General Sir Maitland Wilson's rule, the colonists who have remained will, of course, be allowed to carry on their labours on their existing farms. The Italians have always been good colonisers. In Libya, their genius for this work has been greatly aided by the wonderful roads with which the colony is so well provided—the majority of them built, or improved, by Italian road-makers. The pictures reproduced on these pages show scenes in the Libyan colony and the method of its intensive development by its now-dispossessed rulers

THIS IS ONE OF THE COLONIST SETTLEMENTS, FORMING A CENTRE FOR THE WHOLE AREA AROUND

At fixed spots throughout the colony, these settlements were formed as focal points for the new Italian farmers and road workers. A little fort, a little local administration bureau, a few shops, places for meeting—these served to give purpose and direction to the colonists' efforts, as well as to give them a sense of companionship. The various farmhouses were isolated, the life was hard and the conditions of work onerous : but each little colony had its centre such as the above to co-ordinate its activities and to provide social contacts

A "STREET CROSSING" IN

Libya is a desolate country in the hinterland behind the cultivated zone. Its "roads"—apart from those built for military purposes—are mainly desert tracks. At the point seen above some of

RED from the ITALIANS

Formed Part of the Re-created of for Years by Mussolini

AUTOBUS LINES RUN FAR INTO THE INTERIOR AND LINK UP THE MANY DISTANT SETTLEMENTS

THE WONDERFUL DESERT ROAD—CONCRETE, WITH ASPHALT SURFACE, AND WELL BANKED AT THE CURVES

MIDWAY BETWEEN AGHEILA AND SIRTE, IN A REGION WHERE OUR TROOPS ARE NOW OPERATING, IS THIS DESERT FORTRESS OF NUFILEA

THE HEART OF THE NORTH AFRICAN DESERT these tracks converge from various parts of Libya: roads from the desert town of Hon, the oasis of Brach, and the desert fortress of Sebha all converge on this spot. The Italians were very successful in introducing motor transport throughout these barren spaces

HOW THE NATIVES GET LOCAL SUPPLIES OF WATER BY DIGGING IN THE DESERT SANDS IN THE COASTAL REGIONS

WATER in the DESERT: In Libya the great problem is—and always has been—water. The natural supplies are very limited; in many areas they are non-existent. All the water for the Italian armies during the campaign in the Western Desert, for instance, had to be brought up to the troops in the field in huge water-tanks. Unless water can be found somehow, the region is abandoned by both man and beast. But Necessity is the Mother of Invention: the natives at certain parts of the coastal regions have discovered that by digging water-holes in the sand at some distance from the sea coast they can obtain water which has filtered through from the sea and has lost much of its saltness on the way. Whole families may often be seen engaged on the task of filling their vessels with this precious water. In this modern world, the "vessels" are principally old petrol cans, which to-day replace the earthen pitchers of former years!

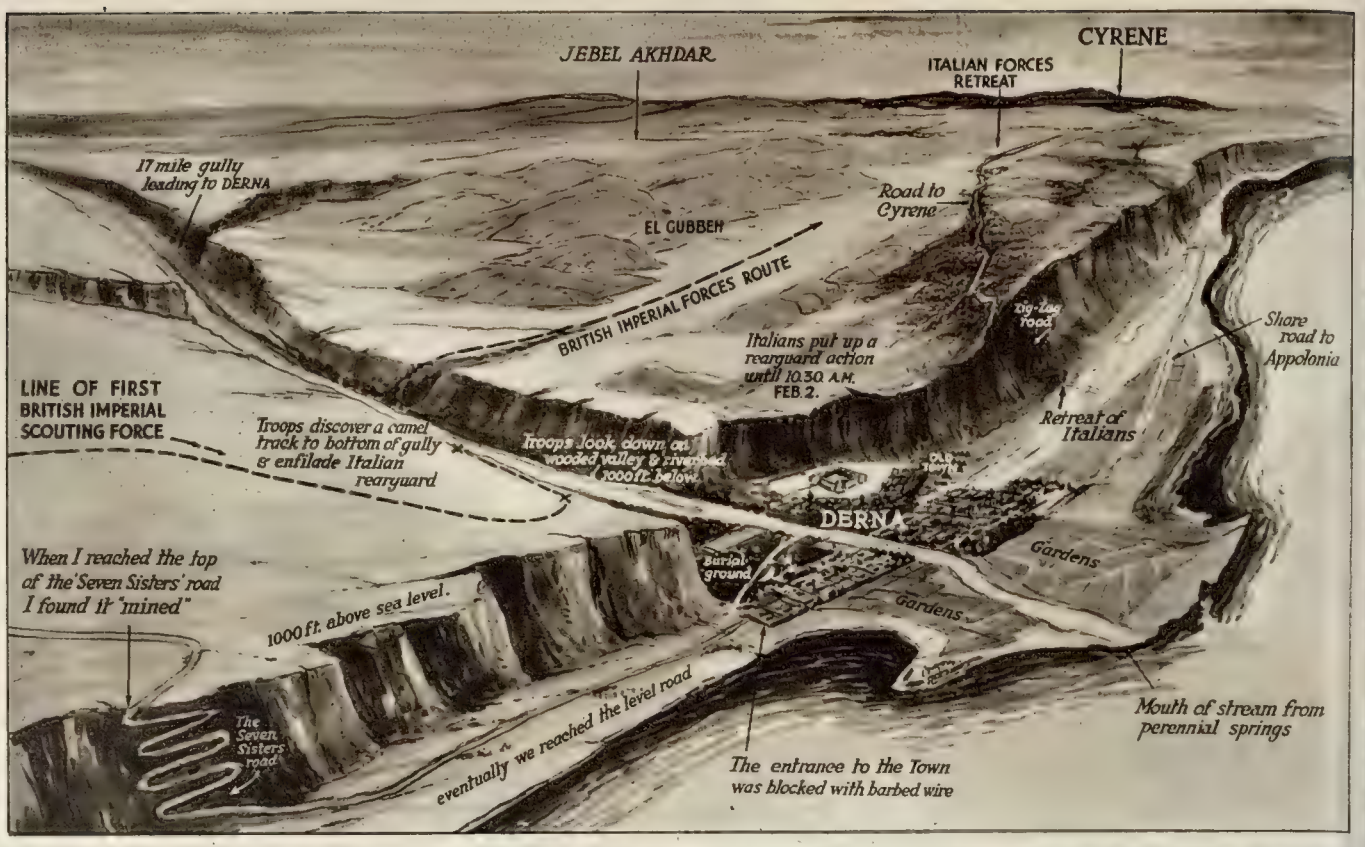
WATER BEING BAILED OUT OF A HOLE INTO CANS, WHILST THE DONKEY PATIENTLY WAITS TO CONVEY THE LOAD BACK TO THE NATIVE ENCAMPMENT

AN ITALIAN FORTRESS TO GARRISON THE WIDE DESERT STRETCHES IN LIBYA: To protect the inland roads and to keep the natives in check, small forts such as this were constructed by the Italians for their garrisons at spaced-out intervals throughout the desert. Here the motorist finds water and petrol for replenishment, and here he can rest from his long journeys. Distances throughout this region are, of course, vast! Note the huge stone-built bastion on the left—an effective protection against surprise, when properly manned)

SIDELIGHTS on the LIBYAN CAMPAIGN

On right—

British correspondents have given vivid pictures of the entry into Derna, just when the Australian advanced forces had encountered some topographical features which were new to the experience of the Army of the Nile. Two Australian companies came up against the canyon of the Wadi Derna, 1,000 ft. deep, and looked down for the first time into one of the great gullies which split the edge of the Cyrenaican plateau from north to south for distances from ten to twenty miles in depth. This party at length found a way down a camel track, unmined, which led them on to the wooded floor of the wadi. They then scaled the opposite escarpment and enfiladed the Italian force around the old Turkish fort. The enemy soon beat a retreat along the shore and up a zigzag road to the high ground and so away towards Benghazi. The correspondents themselves reached the seaward edge of the plateau and found the road known as "the Seven Sisters," by reason of the seven hairpin sweeps which it makes to reach the level of the seashore. The road was still mined, but they took their chance and safely reached the town, the entrance to which they found guarded by barbed wire



AN EVENT WHICH DID NOT ACHIEVE THE PUBLICITY IT DESERVED: HOW THE BRITISH ADVANCED FORCES ENCOUNTERED THE ITALIAN REAR-GUARD IN THE 1,000-FOOT GULLY OF DERNA, DURING THE MAIN ADVANCE ON BENGHAZI

—Drawing by Percy Home

AFTER THE MAIN FORCES HAD PASSED ON: AN ITALIAN HOSPITAL WHICH STILL FUNCTIONED AT BARDIA: No sooner had Bardia been occupied by British and Imperial forces than the main body of the Army of the Nile passed on to Tobruk and to points west. But back in the captured town a well-equipped Italian hospital was discovered, with many wounded soldiers as patients. This was taken over by British soldiers, and as soon as quiet had returned, the work of evacuating the patients back to Egypt was begun

TWO CAPTURED ITALIAN OFFICERS BEING INTERROGATED BY AN R.A.F. OFFICER: This picture was taken at El Adem after its destruction by British bombing raids. The officer in the centre—very much more alert-looking than the majority of the Italian prisoners in Libya—is an Italian pilot

A PORTION OF ITALY'S LARGEST LIBYAN AERODROME AFTER THE R.A.F. HAD FINISHED WITH IT: This was one of the reasons for Italy's impotence in the air during General Wavell's victorious advance through Cyrenaica. Biggest air base in Libya, El Adem was almost obliterated in bombing raids by the R.A.F., and at least eighty-seven aircraft essential to the Italian High Command were destroyed on the ground

WATER FOR THE TROOPS IN THE DESERT HAS BEEN ONE OF THE BIGGEST PROBLEMS CONFRONTING GENERAL WAVELL: It was, however, successfully solved by our forces, thanks to the good number of water-tanks mustered after the capture of Sidi Barrani and before the advance on Bardia was begun: the retreating Italians were not so well served. Here an emergency supply—carried in spare petrol tins—is being loaded on to an army lorry for conveyance to a forward British area

THE COMING OF THE RAINS

A Problem for the British Command in the Abyssinian Campaign

WHAT HAPPENS WHEN THE RAINS COME IN ABYSSINIA: This is an Ethiopian caravan route of deep sand which, in the rainy period, becomes a sticky swamp. It is the road which runs for 2,000 miles from Mogadishu on the Indian Ocean in Italian Somaliland, through Addis Ababa in Abyssinia, to Massawa, the port on the Red Sea in Italian Eritrea. This is the road which the Italians have been working upon for years, with thousands of labourers, in an effort to convert it into a modern motor road running through the heart of the vast territory controlled by them in East Africa

NOT a single traveller who has written about Ethiopia but has been struck by the succession of deep valleys through which wind rivers, large and small, all tortuous, all with sharp falls over pristine rocks, alternating with long stretches of gently-flowing water. These latter are the home of innumerable fish, many excellent eating.

The plateau stands at 2,000 ft. above the traveller's head, and whether on mule-back (the only form of transport available) or on foot, he must plod his weary way along the narrow, winding mountain path leading him ever upward.

Close to the river he has passed through the thickest tropical jungle, but rising 1,000 ft. or more he passes through sub-tropical and temperate zones with their characteristic fauna and flora.

Now the sun is setting and he has not yet made good the terminal of that day's journey, so he hurries onward.

The last lap is certainly the worst, for as is almost universal in practice, these mule-tracks, as they leave the edge of the plateau, drop very steeply for the first mile or two—indeed, I could point to many which I have known by bitter experience which are nothing more or less than the steps of a pyramid. These stairs vary in height from 18 ins. to 2½ ft. each: how the mules negotiate them Heaven only knows!

At last he sees the end of that day's journey, and thankfully takes shelter in the caravan-serai, or traveller's resthouse.

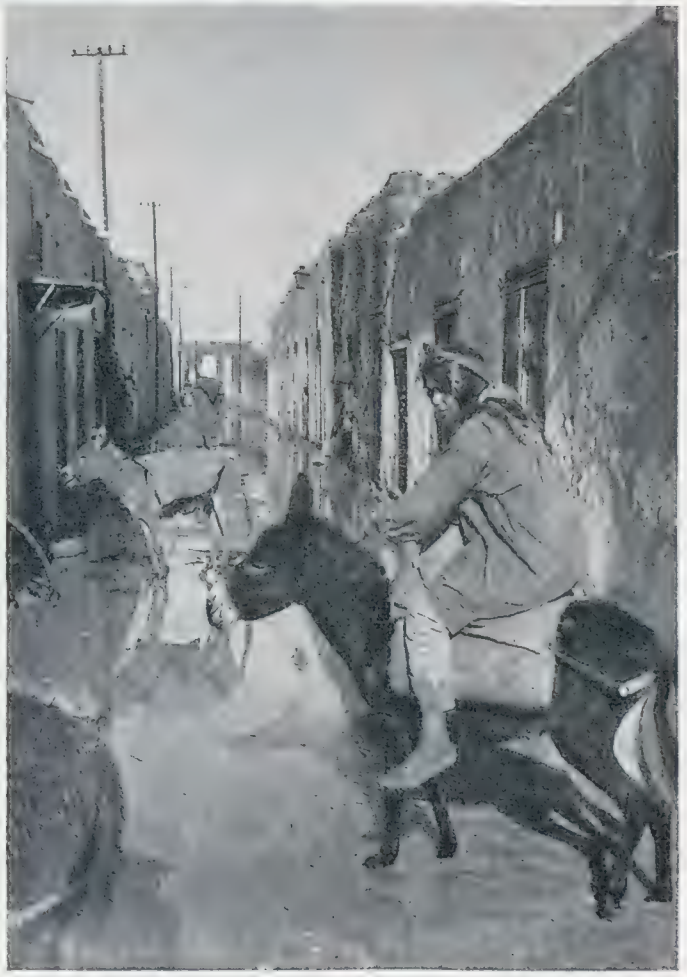
Our traveller had perforce left the Sudan late in the year—*i.e.*, April 20 (the 'tween-season, as we may call it, when the summer rains are about to break). All day it has been cloudy overhead, with a fitful wind (hot, steamy and uncomfortable, even in the higher altitudes), and boding some change in the weather. Scarcely had this traveller unpacked the few necessaries than the storm broke. Presaged by fitful, violent flashes of lightning, rending the sky like the Sword of Damocles, the whole heavens seemed for a moment to be ablaze. Scarcely has the lightning passed than there is a reverberating roar of thunder, which literally shakes the ground beneath his feet. The echoes of the thundercrashes are still sounding in his ears, when there is yet another insistent sound—a strange swishing—and before a minute has passed the rain (*tropical* rain) is lashing the building as if it would submerge it instantly. He looks out on the bare, bleak plateau, which a few moments before was hard ground under his feet. Lo, a miracle! That same earth is under six inches of water and the downpour is discharging itself over the very edge of the plateau in a thousand miniature cascades. Within the hour peace reigns again, the sky has cleared, moon and stars shine down upon him, and all, apparently, is still.

But our traveller knows better, for he realises that the morrow's march is going to be extraordinarily difficult. This sudden outburst of rain has softened the whole surface of his path in to-morrow's march, and he reflects sadly that, instead of a steady four miles an hour, his mules, sliding and slipping at every turn, will only be able to cover two miles, so that his next march of 20 miles will take him, with the necessary rests, at least twelve hours.

From April to the end of September, the khamsin (or, as we would say in India, monsoon) wind prevails. Blowing up continuously for months at a time from the south-west, it brings masses of clouds from South Africa, the real genesis of the Indian monsoon. These clouds fly at heights varying from 4,000 to 25,000 ft. above the earth, and these, affected by the magnetic storms which are very prevalent during this period, discharge themselves at will. Thus we may know for certain that military operations on any large scale, if undertaken anywhere between the western boundary of Ethiopia and the Indian Ocean, between Cape Guardafui and the Equator, must, of necessity, be uncertain, for the physical conditions for marching columns and particularly for transport, animal or wheeled, are, to say the least of it, very difficult.

In the swampy country between Kassala and Gallabat, between Gallabat and Gombala on the western borders of Ethiopia, in the neighbourhood of Lake Rudolf and as far east as the Indian Ocean, northward to Cape Guardafui, westward along Latitude 12, as far as Aden, thence north-westward as far as Massawa, and finally westward, through Kassala to Khartoum, we may find these conditions prevailing, and if we are undertaking military operations, must undoubtedly reckon the weather our enemy.

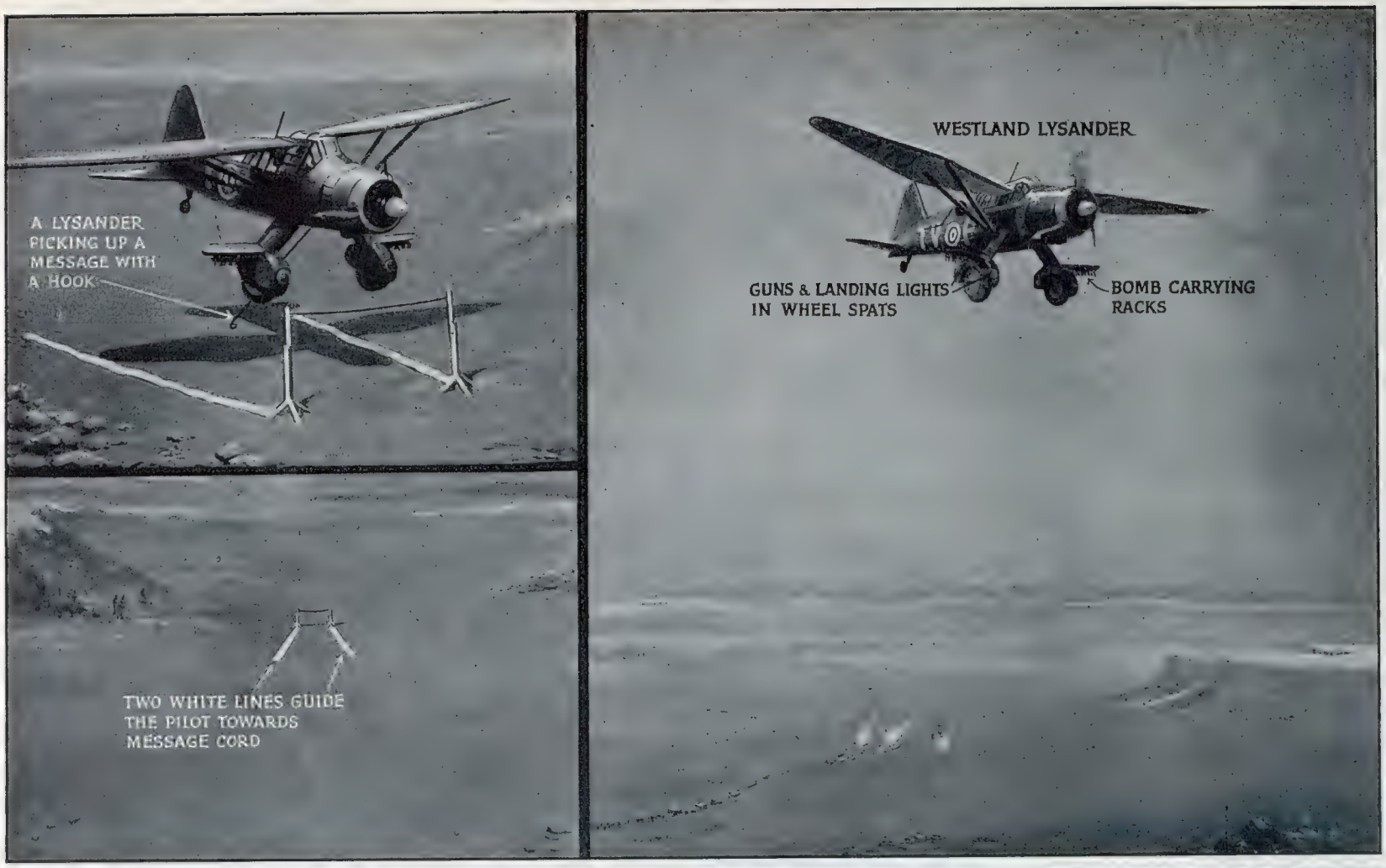
In other words, if our columns, operating as they now are from Kassala, Metemmeh and Gallabat, are to reach their objectives, Addis Ababa, Asmara, Massawa and Assab, they must have completely overcome effective Italian resistance *at latest by April 30*.



BEHIND THE OUTWARD FAÇADE IN LIBYA: BENGHAZI IN THE RAINY SEASON: This is the sort of scene one encounters behind the grandiloquent façade erected by the Italians in the Cyrenaican capital. Needless to say, it is not openly exhibited by the Italians! It is a street in the native quarter of Benghazi after a torrential downpour of rain in the wet season

As regards the structure of the country, here is a *general* picture. Central Ethiopia, that *mélange* of towering peaks, rugged scarps and open plateaux, between Long. 36 and 40 E., and Lat. 7 and 14 N., receives between 35 and 45 ins. of rain per annum, chiefly between April 20 and September 30: the provinces around this great central area may be considered either foot-hills of the main massif, or outliers, with subsidiary foot-hills of their own particular systems.

S. L. Craster



THE WORK OF THE LYSANDER IN THE FIELD IN CO-OPERATION WITH LAND UNITS OF THE ARMY—*Drawings by Roland Davies*

Throughout the present war, aircraft of both sides have collaborated closely with the land forces in many operations. One of the greatest uses of Army Co-operation planes is that of observation and spotting for the artillery. In the desert, however, and at the beleaguerment of Calais and Dunkirk, that surprising aircraft, the Westland Lysander (our most important "Co-operation" type), played a large part in the dropping of messages and supplies. The Lysander has a range of 600 miles, and although capable of 230 m.p.h., it can fly quite safely at as low a speed as 55 m.p.h.—a great asset for its specialised duties. The three drawings above show how the aircraft operates when performing its different tasks

AIR FORCE AND ARMY IN CO-OPERATION

One of the New Tactical Methods of Modern Warfare

GERMANY revealed in its whirlwind campaign against Poland, and in its campaign against Holland, Belgium and France, how carefully-worked-out tactics of Army Co-operation with the Air Arm can overcome more static defences.

The new Army Co-operation Command of the Royal Air Force was formed with this knowledge in view. We have always had in the R.A.F. types of aeroplane developed particularly for liaison work with land forces, and these will form the foundation for the new Command.

In France a year ago the Air Component of the R.A.F. was specially detailed to work with the British Army behind Belgium. The Air Component was made up of squadrons of Westland Lysander Army Co-operation monoplanes reinforced by Gloster Gladiator and Hawker Hurricane fighters for defence and Bristol Blenheim I's for reconnaissance and bombing. Any Army Co-operation unit must have these three essential types of aeroplane.

The Westland Lysander monoplane is the one type of aeroplane in the R.A.F. designed specifically for Army Co-operation duties. It embodies features in its layout arranged for this purpose alone.

The first essential of an Army Co-operation type is good view, so that the crew can make the best possible use of their opportunities of spotting for the guns or of observing enemy movements. Thus the Lysander was designed as a high-wing monoplane, with the pilot seated in front of the wing.

The second essential is that of being able to take off from and alight in restricted areas when operating with advanced troops. The Westland Lysander is more liberally equipped with slots and flaps than any other type at present in service. Because of them it can take off from an extraordinarily small space and can alight at only 55 m.p.h.

A roomy fuselage to provide stowage for all the equipment needed is another feature of the Lysander, which carries a large camera for aerial photographs—operated by the pilot—as well as full radio equipment for sending reports back to its base. It is also equipped with a retractable hook for picking up messages strung between two posts (or rifles) stuck in the ground, machine-guns in each wheel-spat for self-defence and ground strafing, and, also attached to the spats, small bomb winglets, which serve the double purpose of carrying light splinter-bombs or containers for dropping supplies to the troops.

The extent of the equipment which must be carried gives some idea of the troubles which have to be met in designing an Army Co-operation machine. Nevertheless, the performance of the Lysander is good, considering all it has to carry. The 905-h.p. Bristol Perseus XII motor gives the Lysander a top speed of 230 m.p.h. at 6,500 ft.

The Army has been experimenting with a far smaller type of aeroplane for certain of its particular needs of spotting and communications. Numbers of Stinson 105 light monoplanes (80-h.p. Lycoming motor) and Taylorcraft light monoplanes (90-h.p. Cirrus Minor motor) have been used recently. They can carry only a small load and have top speed around 115 m.p.h., yet, because they can be operated from the smallest fields with safety, they have proved useful.

Still in pursuit of the same qualities, the Cierva Autogiro has seen service for Army Co-operation duties. Both the Cierva C.30 and the C.40 direct take-off type are in use. The C.40 can take off with no run, with a jump-start of from 10 to 20 ft., according to load.

At the other end of the scale the bigger, fast, two-motor monoplane, such as the Douglas Boston, equipped with a powerful armament for ground strafing and heavily armoured against machine-gun fire, is likely to come into service for duties in support of ground troops. Equipped with cannon, an aeroplane of this type is particularly suited for knocking out tanks and doing, with still more effect, the operations for which the Germans developed the dive-bomber.

HOW THE LYSANDER DROPS ITS SUPPLIES BY SPECIAL PARACHUTE CONTAINERS

Ammunition, or food, or medical supplies can be dropped to troops in this way. In desert operations—as at Tobruk in particular—co-operation between Lysanders and the ground forces can be of the utmost importance. These planes are also used for ground strafing of the enemy with small bombs carried on the tiny winglets attached to the wheel-struts. There are, of course, other types of machines used for Army co-operation work, but the Lysander is the best-known

SPECIAL "SPHERE" SECTION

Making the OCEAN HIGHWAYS SAFE FOR CONVOYS

The Construction of Seadromes in a String Across the Atlantic Would be a Complete Answer to Submarines, Aircraft Raiders or Other Enemy Marauders

Their Construction and Possibilities Discussed by C. G. GREY

Here is a subject of first-class importance to everyone in this country. Our "life-line" is the seaway linking this country with the United States and Canada: without it we would be lost—or, at any rate, seriously affected in our efforts against Germany. On these pages, therefore, we present a solution of the problem of how to keep our seaways clear. Fantastic as it may appear at first glance, the construction of such a chain of seadromes across the Atlantic is not overwhelmingly difficult, nor need its cost be insuperable. And it would be a sure defence! In this section we also present a further idea—for consideration when the moment comes for aggressive action instead of defensive, over enemy territory.—EDITOR.

THERE is nothing new about seadromes as such, but the idea of using them in war is new, and the theories, strategic and tactical, about how to use them are new and interesting. In essence a seadrome is only a floating platform so big that aeroplanes can land on it and take off from it. Anybody could have thought of a huge raft to be used as a floating aerodrome. But if it is to be usable its designers and builders have to make it so that its surface will not undulate with the waves nor break up in a storm. That is where the art and science come in.

The seadrome, as imagined by its advocates, is more like a seaside pier which has escaped into mid-ocean than anything else. Instead of floating on pontoons or hulls or boxes, which would themselves rise and fall with the waves, the idea is that the flotation shall be got from cylinders so deep in the water that the surface motion of the waves will not affect them directly and the waves will pass round and between the cylinders just as they pass round and between the legs or piles of a pier.

The two leading exponents of the seadrome idea are (1) Mr. Armstrong, an American engineer who is one of the chief technical men of the great Du Pont de Nemours armament firm, one of the biggest makers of ammunition in the States; and (2) Mr. Creed, a Nova Scotian, who has been on engineering work in most parts of the world.

Just why so small a province as Nova Scotia should specialise on this sort of thing is unexplained. But the late Dr. Alexander Graham-Bell (Edison-Bell records and telephones) with "Casey" Baldwin experimented with air-driven seagoing speedcraft which were built also as a kind of pier-like structure. And both were concerned before that with the late Glenn-Curtiss and J. A. D. McCurdy, now of Toronto, in the early experiments from which the famous Curtiss aeroplanes—America's first successful flying machines—were evolved. Baldwin and McCurdy flew all through the winter of 1908-9 off the ice at Baddeck, Nova Scotia, before anybody flew in Europe.

There are essential differences between the Armstrong and the Creed system. The Armstrong piers are long vertical cylinders tied together by cross-bracing, and each carries a long pillar through its centre which has an enormous ballast-weight on its lower end, the depth of which can be varied by telescoping the pillar in and out of the cylinder. These cylinders are braced and cross-braced to one another by tie-rods and compression bars.

In the Creed system the piers also are long vertical cylinders, but the lower end of each is built into a horizontal cylinder, which is joined at each end, and at right-angles, to other similar horizontal cylinders, so that the structure provides its own cross-bracing and no dead weight enters into the structure of the flotation gear.

Both types have been tested as models of a few yards in length and width. But the idea ought to be tried out on a big scale so that the Government can convince itself whether either or both of the types is sound or not. A one-fifth scale model, say, 200 yards long, 100 ft. wide and standing, say, 8 or 10 ft. out of the water, would prove in a moderate lop in fairly sheltered water whether a seadrome 1,000 ft. by 500 ft., standing 50 ft. clear of the water would do its job in an Atlantic gale. And it would cost only a few thousands of pounds to build, as a bare skeleton—judging by the estimate of one of the chief technicians of one of our best engineering firms that a full-size seadrome fully equipped with all internal mechanism, quarters, stores, workshops, defensive armament, armour over vital spots, and all that, would cost about a million pounds.

And when you come to think that half a dozen of these machines would make the Atlantic crossing as safe as in peacetime, and that they could be built by the end of this year, if everybody went at it wholeheartedly, they look cheap at the price.

The Raft Idea.—That the idea of floating aerodromes is in the minds of flying people is shown by a letter lately from a friend of a fighter pilot who was killed. This pilot had explained to his friend a scheme for constructing giant rafts which could be towed to a point which was considered suitable and there bolted together to make an area big enough to be used by fighters as a re-fuelling base.

He argued, rightly, how useful such a thing would have been off the coast of Norway, and how useful it would be when we go to invade Germany. To land our troops we must have full command of the air for at least fifty miles from the coast. And even though our new fighters will give us that, they would give us still more if they could start with full tanks from bases close to the coast.

This pilot suggested proper defence of the floating base by *flak*-ships (anti-aircraft ships). He had evidently thought out fully the tactical and strategic schemes, which are equally applicable to seadromes. But he had not thought out the engineering problems.

The fatal objection to the raft idea is that if the sections were bolted together solid, no human ingenuity would stop them from breaking apart when the sea lifted and dropped the hulls, pontoons or caissons on which the sectional rafts floated. And if the joints were articulated, that is, were free to work on one another, the alighting surface would be always on the move except in a flat calm, which is rare.

Years ago the late J. L. Travers, R.A.F., took a flying-boat to Peru for the Peruvian Navy, and described the embarrassment of aiming to alight on the crest of a Pacific swell, only to find that, at the moment when one should have touched down, the aerodrome had receded to some 30 ft. lower, and one was momentarily suspended at 0 m.p.h. over the trough. The articulated raft would be like that—or, as one might describe it, like Croydon aerodrome (the worst in England) with its surface moving like the canvas of stage waves.

Therefore, we must, with regret, wash out the raft scheme. The success of the floating aerodrome, or seadrome, depends on having a reasonably motionless deck in heavy weather. And the essence of the seadrome is having the floats so far down that they will not be moved by surface waves; or so that, as the wave-motion decreases from the surface with depth, the variations in motion will cancel out and leave the supporting cylinders practically motionless.

How that motion is to be destroyed is a pretty problem in hydrodynamics and hydrostatics, which is one of the reasons why a large-scale model, or mock-up, *must* be built, and quickly, to test the types of design. It is too technical for discussion here, and I fear that there will be much opposition to building them or even building a mock-up.

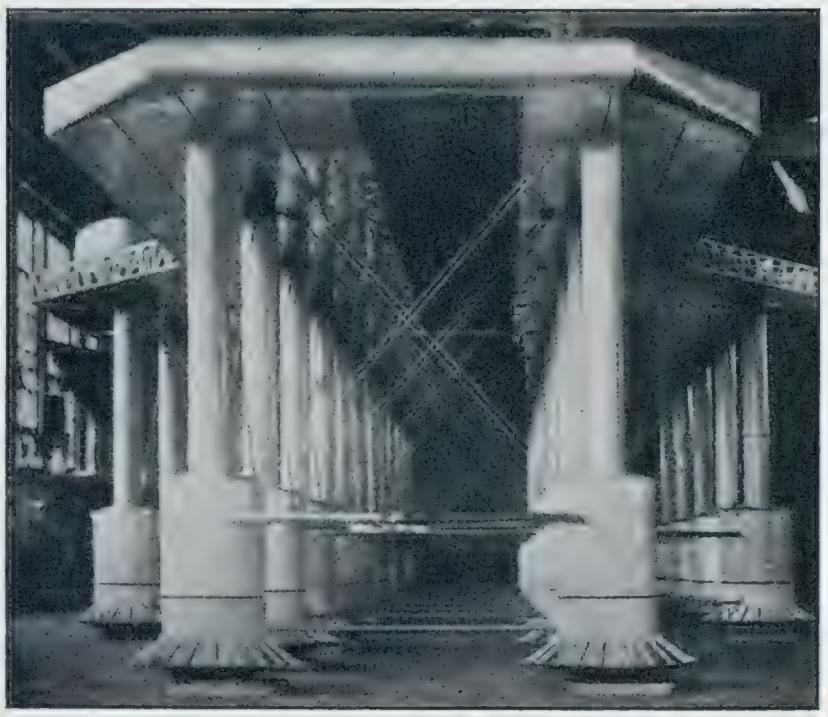
Years ago I discovered an interesting psychological fact. That is what I then called the Five-to-One Stupidity Factor. If you want to know how long anything new will take to make, or to come into use, just work out how long that would be if everybody concerned, from designer to user, were keen and intelligent and did their best to help the idea along. Multiply that time by five and you will be very near the actual time.

By the time the idea has overcome official objections, Civil Service lethargy, deliberate blocking by vested interests, technical conservatism, commercial short-sightedness, pure accidents (mechanical and personal), sabotage of all sorts by the interests already mentioned, and just plain mistakes and stupidity, you will find that my Five-to-One Stupidity Factor is astonishingly accurate. I can give facts and figures for all sorts of things to prove it—for example, the tanks of 1914 which did not go into action until July 1916, and the parachutes of 1916-17, which were not accepted in the R.A.F. until somewhere between 1925 and 1930. So we must not be too hopeful about the seadromes for *this* year, or even for this war.

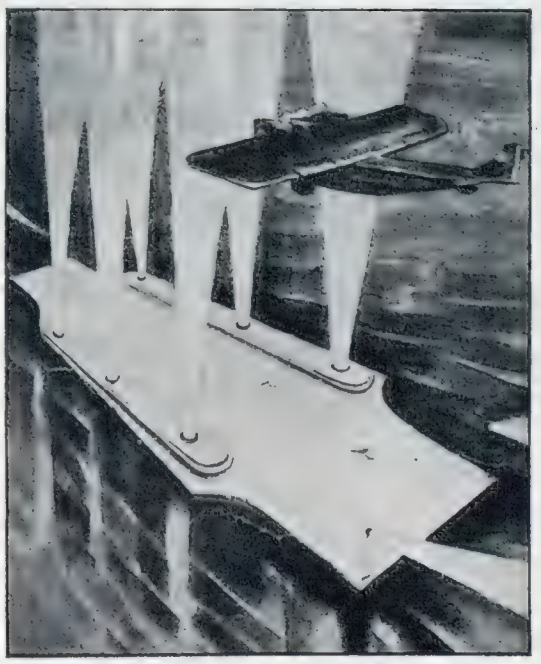
The Strategy and Tactics of Seadromes.—Assuming that seadromes on test do come up to the claims of their designers, let us consider their uses. At the moment the job which they could do best would be the protection of our traffic between here and the United States. Everything on that route is in their and our favour.

The Germans could not even hinder, let alone stop, our placing our seadromes where we want them, in a string between North Ireland and Newfoundland. Our only problem would be getting them there and finding suitable anchorage. I am not a hydrographer, but there used to be a minute scale model of the bottom of the Atlantic in the window of the Commercial Cable Company in Piccadilly, near my former office, which always fascinated me. It showed an enormous hole about mid-ocean, which suggested no anchorage on anything less than some 500 fathoms

(Continued on following page)



THIS LARGE-SCALE WORKING MODEL WAS ACTUALLY BUILT A DOZEN YEARS AGO TO DEMONSTRATE THE ARMSTRONG SEADROME PROPOSAL: Mr. Armstrong is an American engineer, who, ten or twelve years ago, conceived this seadrome project and constructed a large-scale model to show exactly how it would look in being. Mr. Armstrong was of the opinion that large, hollow, vertical steel columns going down to a depth of about 100 feet would provide a flotation basis which would enable the whole construction to ride unaffected by the up and down surface motion of the Atlantic waters
This picture was reproduced in The Sphere *in March* 1930



A SUGGESTION FOR LIGHTING AN ATLANTIC SEADROME: Six large searchlights, ranged three on each side, were (in this drawing published in *The Sphere* in March 1930) offered as a solution to the problem of night-lighting of a seadrome. Such a method would, of course, illuminate the deck but would at the same time give notice of position to any adventurous night raider!

A FORTRESS SET IN THE SEA—BUT ALSO A SEADROME WHICH WOULD BE USED AS A MID-OCEAN BASE FOR BOTH LANDPLANES AND SEAPLANES : This drawing s article and the drawings which follow on the next two pages of this issue—*Drawing by E. G. Lambert*

On the following two pages we reproduce a series of drawings showing how the idea of a series of floating aerodromes forming a chain from the North American Continent to Europe could be put into execution. The drawing above represents another idea which is discussed in the first part of the article by Mr. Grey printed on these pages. Already many technical-minded men have given much thought towards structures of this character which would provide resting-places and refuelling stations for long-distance aircraft. With the increased knowledge of the actual types of aeroplane likely to be used for such flights as would take them far out to sea and with the further knowledge of actual landing problems and refuelling difficulties gained from the employment of modern aircraft-carriers, much valuable data could be secured by the designers of a seadrome fortress such as the above both seaplanes an facilities, lifts, cra made for anti-airc station such as tha known to all the

OCEAN HIGHWAYS SAFE FOR CONVOYS
(Continued)

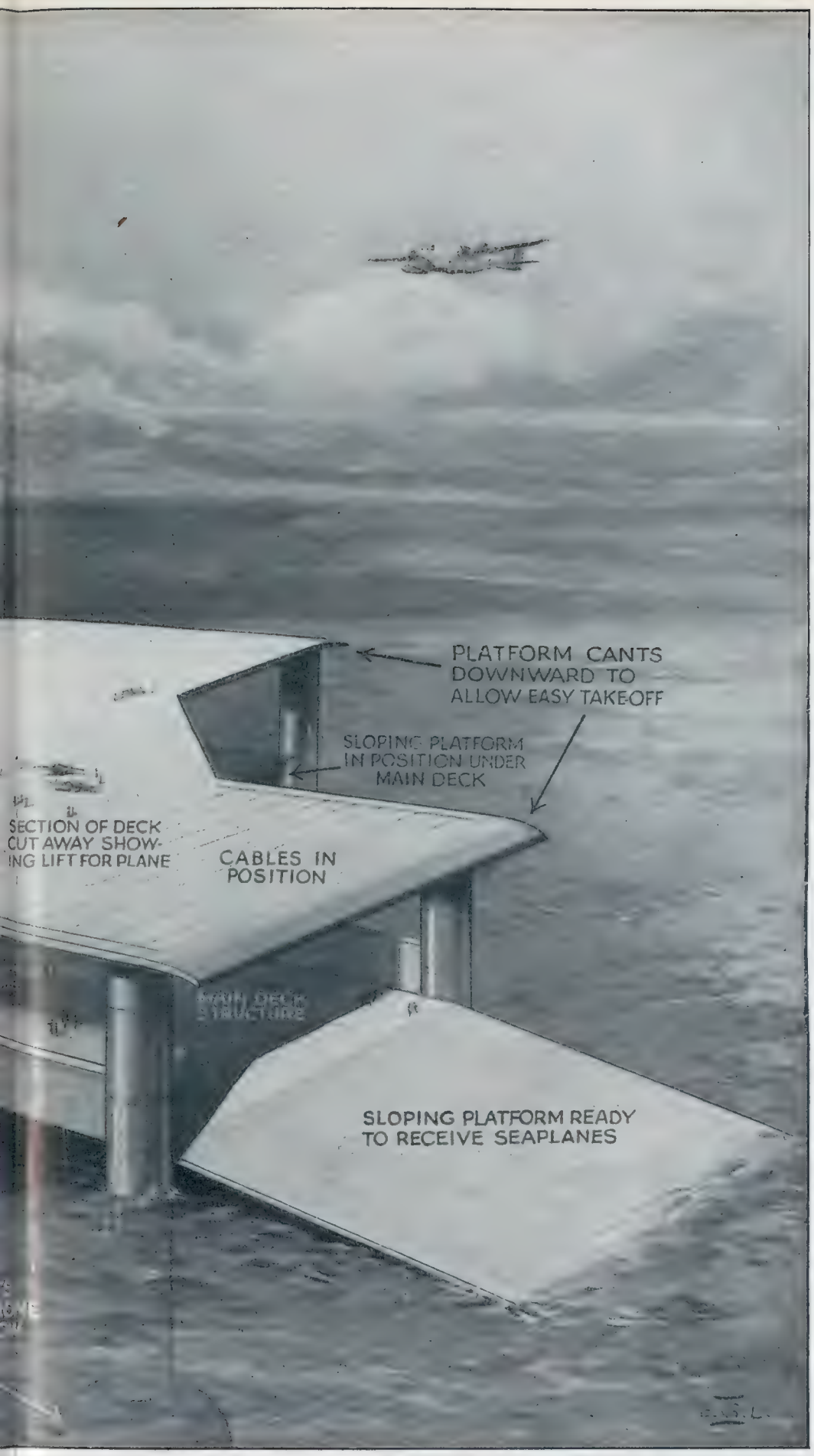
of cable. So the seadromes cannot be anchored at equal distances one from the other.

Now, the success of the seadrome scheme consists on so patrolling the ocean during daylight that no submarine or surface-raider can come within such a distance from the sea-lane used by our shipping as it can cover during the hours of darkness. That is to say, if patrols from each seadrome continually fly approximately in circles round their bases, and if those circles overlap one another, the result will be a fairly wide lane on each side of the line along which the seadromes are anchored, and that ought to be a sea safe for heroes, and others, to steam on. That is to say, the patrol paths from one seadrome ought to cross those from the next to east and west on the same degree of latitude, to keep the safety zone the same width right across.

And the width of that zone must be such that no commerce-raider who is outside that zone in daylight can reach the middle of the lane during the darkness. Similarly submarines which are outside the zone ought not to be able to reach the middle in the dark. If they try to travel all the way under water during daylight the distance ought to be too great for their submerged duration. And if they come up for air and to charge their batteries, our patrols from the seadromes ought to spot them, and, with luck, destroy them.

The result of such a safety zone will be that instead of herding ships together in convoys, where the speed of the convoys is that of the lamest duck in it, and the course zig-zags all over the place and wastes days of transport, each ship will be able to go ahead at its best economical speed, and turn round and come back again, while the slower ones are still slogging across. Thus the tons of goods transported will be multiplied many times for the same shipping tonnage in use.

Each seadrome will carry 25 or 30 aeroplanes, so that ten or a dozen can operate all day. The types used would probably be Fairey Fulmars or Swordfish or Albacores—fitted with flotation gear—and carrying depth-charges And probably some



ng should be studied in the light of Mr. Grey's accompanying

bove. Provision would have to be made for the reception of es and landplanes ; for petrol and oil storage ; for workshop s, cranes, etc., etc. Above all, provision would have to be i-aircraft guns and for wireless stations on the fortress. A s that depicted here would, of course, be fixed, and its position the pilots intending to make use of it

torpedo-carriers would be kept on hand to deal with any surface-raiders which might be sighted outside the safety zone.

Those seadromes at the eastern end of the lane will carry additional fighters to tackle enemy long-range bombers which might try to raid the seadromes

On right—**A CROSS-SECTION OF THE ATLANTIC FROM NEWFOUNDLAND TO IRELAND :** In considering the problem of the erection of a chain of seadromes across the Atlantic, a knowledge of the depth of the ocean bed is necessary. Here is a diagram which shows the depth of the ocean along a line from St. Johns in Newfoundland to Europe

or shipping within range of Europe. And, naturally, the seadromes will carry anti-aircraft guns, for self-defence.

Internally each seadrome will be arranged much as an aircraft-carrier is to-day. Below the flying deck will be hangars and workshops, to and from which the aeroplanes will be brought by lifts. Quarters and stores will also be below-decks, and protected by armour.

Only practical trials can prove whether the best way of moving the seadromes is by towing or by self-contained motor power. Possibly motor-power may be needed to keep the flying-deck head to wind if the anchorage is in a tideway, where the tide might carry the seadrome across the wind.

Invasion Uses.—So much for protecting our Atlantic traffic. When we come to use seadromes as re-fuelling bases for fighters when we invade Germany their equipment must be different.

More anti-aircraft guns will be needed. And they may need guns which can sink speed-boats or destroyers which try to attack them. And they will need heavier armour, because, as Sir John Salmond said, years ago, some of the bombers will always get through.

One of the most absurd objections which has been raised against seadromes, even on the Atlantic, is that they must use wireless to bring their aeroplanes home on a beam, and that the enemy can use the beam to find them and bomb them. That is just as true of any aerodrome on land. And the seadrome's own fighters and guns ought to stop such an attack.

On invasion duty we must be ready to lose a few seadromes by enemy attack. But they are so much cheaper than warships that we can stand the loss. And, anyhow, they will be much harder to sink than is a ship. A torpedo or a bomb might burst a few cylinders among the floats, and make a few holes in the deck, but the edifice as a whole would remain afloat and would be cheap to repair, because all the parts from which it is built will be alike, as are the bits of meccano structures, or as were the parts of Mr. Wallis's excellent airship the *R.100*—which was a mass-production job, although there was only one of it.

If one assumes that the seadrome will work as a hydrostatic and hydro-dynamic job, then there can be no doubt about its strategic and tactical value in air war to us

MOORING PROBLEMS, in connection with the Atlantic Seadromes

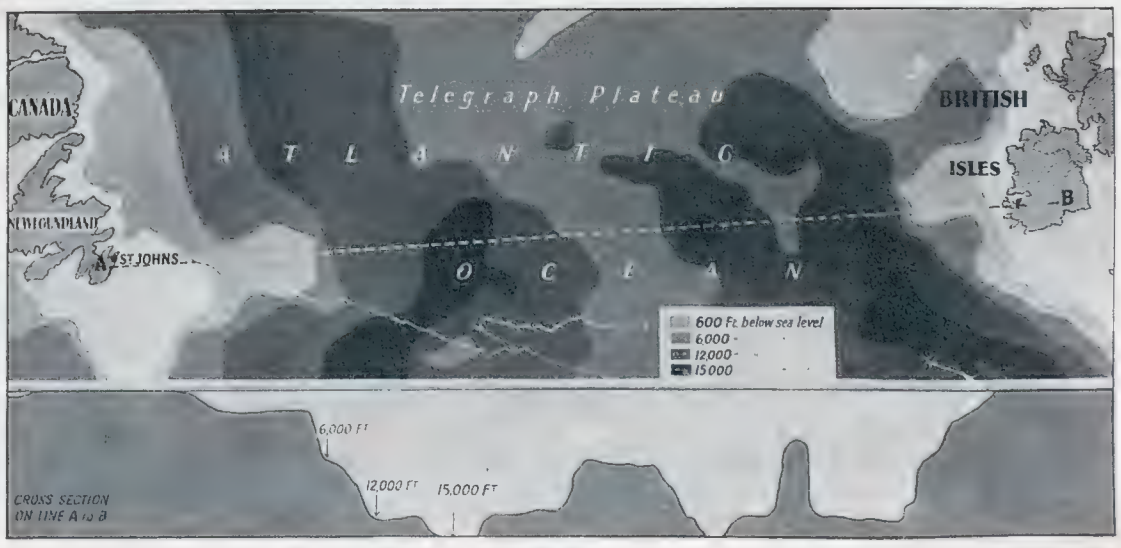
A note by FRANK C. BOWEN

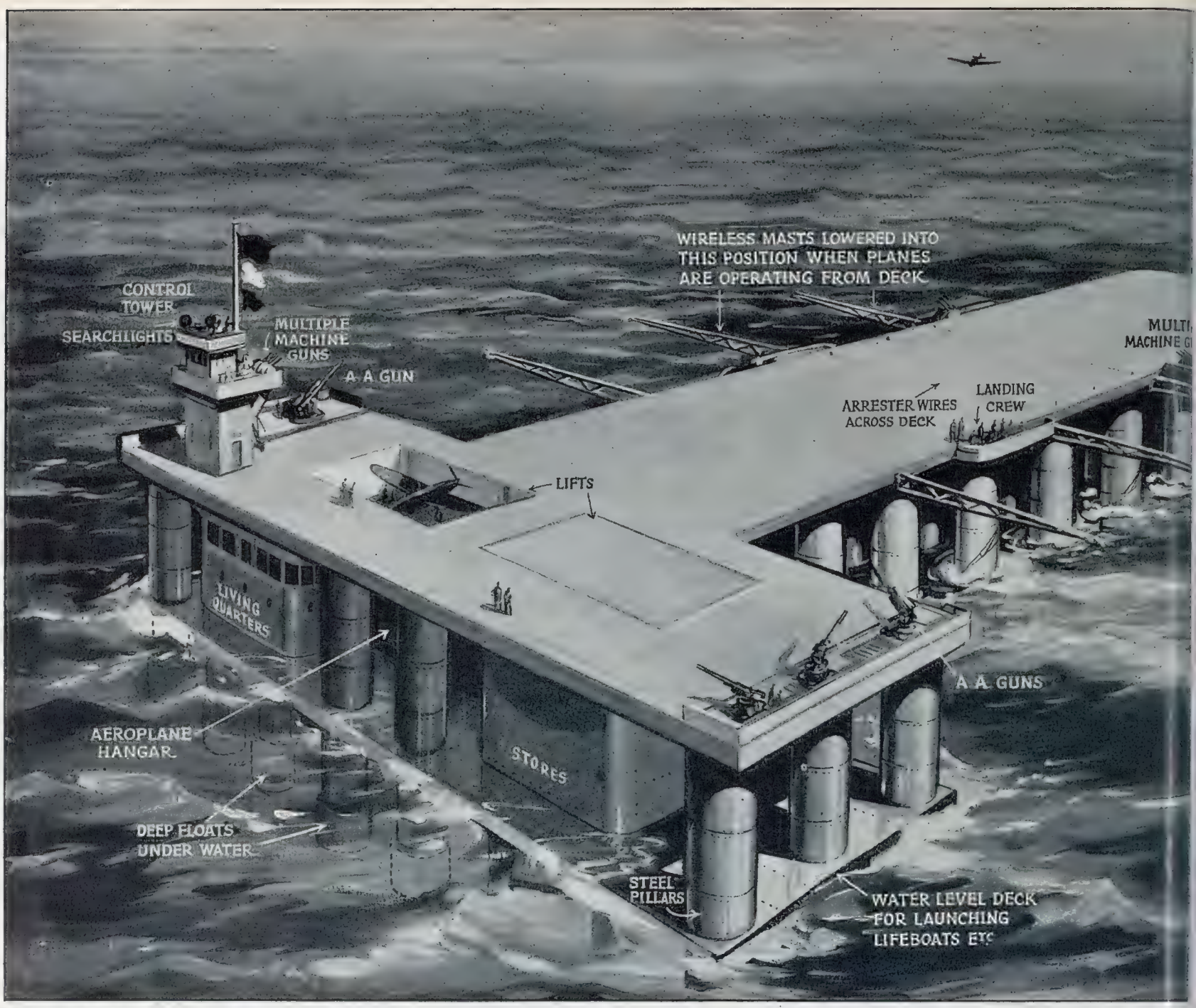
THE problem of anchoring the seadrome in position was one of the greatest to be tackled, and Armstrong's idea was to have very elaborate sinker anchors weighing no less than 1,500 tons each. Most seamen would consider that a mushroom anchor of infinitely less weight would hold just as well, but the question of the cable presents more difficulties than the anchor. In order to give a reasonable hold, and sufficient spring to avoid the jerks which would break any cable, it is necessary to have it at least three times as long as the depth of water, and for such a strain it is probable that five times the depth or even more would be demanded. Ordinary 2¾-in. stud-link chain cable weighs a ton for just over six fathoms, and if the seadrome has to be anchored in 1,000 fathoms, the weight of several such cables becomes colossal.

Such a cable would be practically certain to break by its own weight, and although the latest cast-steel cable can give the requisite strength for less weight, it pits and corrodes very rapidly, and would require constant replacement. As it would be impossible to weigh it when it became weakened, thousands of tons of steel would have to be abandoned to the bottom of the sea periodically, quite apart from accidental breakage. Mr. Armstrong's idea was to obtain more strength by avoiding the ordinary link chain and substituting cables built on the same principle as those of suspension bridges, but their use would be entirely experimental and fraught with uncertainty.

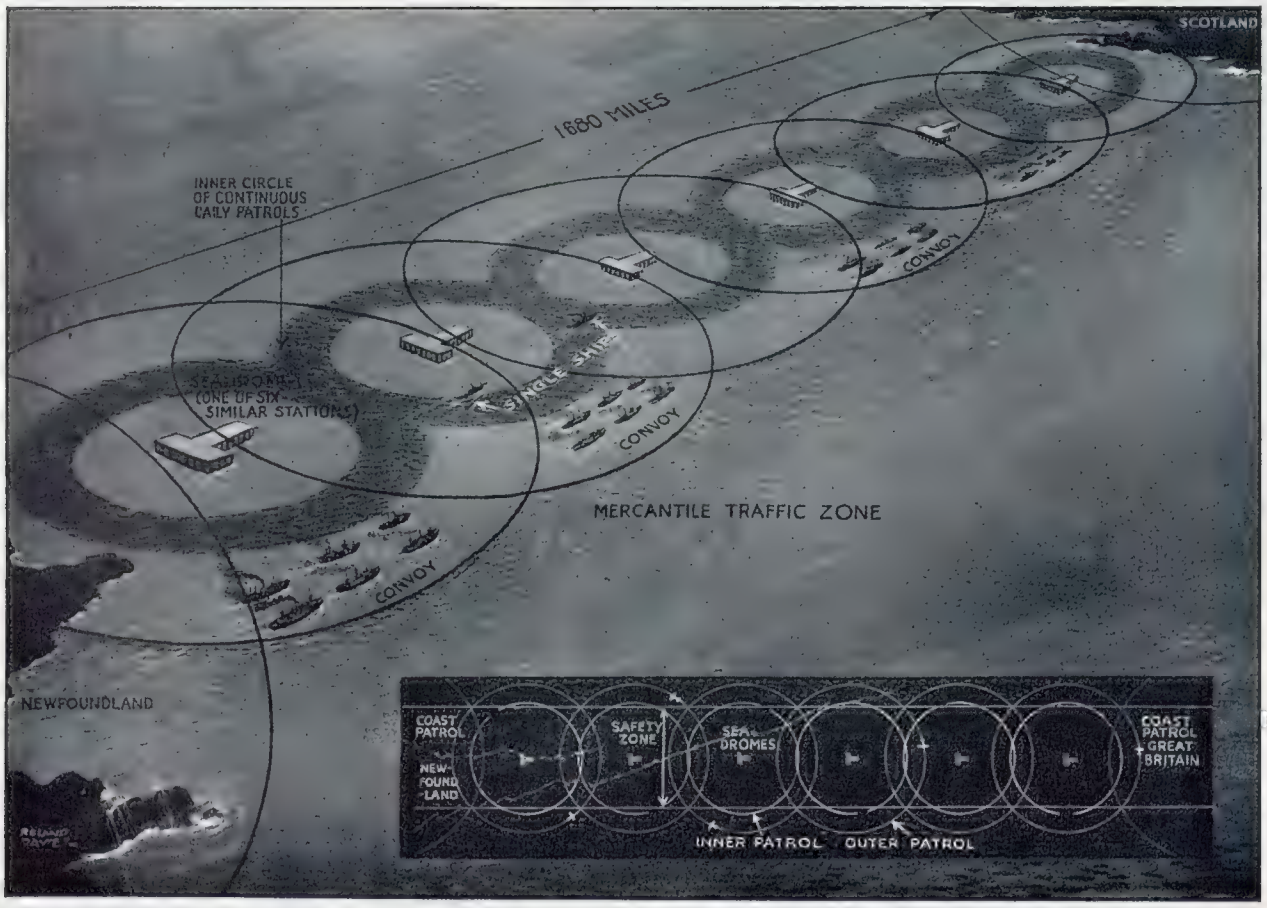
In addition to the cable down to the bottom of the sea, still more would have to be provided, although it would not be necessary to consider such huge weights and strength. The direct pull of such a huge structure as a seadrome, with very heavy jerks in gusts of wind, would court disaster so that the cable from the bottom would have to be taken to huge buoys and the seadrome moored to them by further chains which would provide the necessary spring.

After several years' experiment and investigation the price of each of these seadromes was estimated at 30,000,000 dollars and one was to be anchored every 500 miles across the Atlantic. In 1934 the Sun Shipbuilding Company planned a modification of the Armstrong scheme which would only cost 15,000,000 dollars apiece and which would provide the landing and flying-off facilities, petrol stores, workshops and hotel accommodation.





THE FLOATING AERODROME—OR SEADROME—SET IN THE MIDST OF THE ATLANTIC ALONG THE SHIPPING LINE FROM AMERICA TO BRITAIN: BY MEANS OF A CHAIN OF THESE, OUR MERCHANT CONVOYS COULD BE MADE IMMUNE FROM ATTACK BY SUBMARINES OR ENEMY AIRCRAFT—*Drawing by Roland Davies*



SPACED OUT AT 240 MILES DISTANCES ACROSS THE ATLANTIC—SHOWING THE "SAFETY ZONES" AFFORDED BY THE CHAIN OF SEADROMES TO THE MERCHANT CONVOYS TO BRITAIN—*Drawing by Roland Davies*

Above and on left—

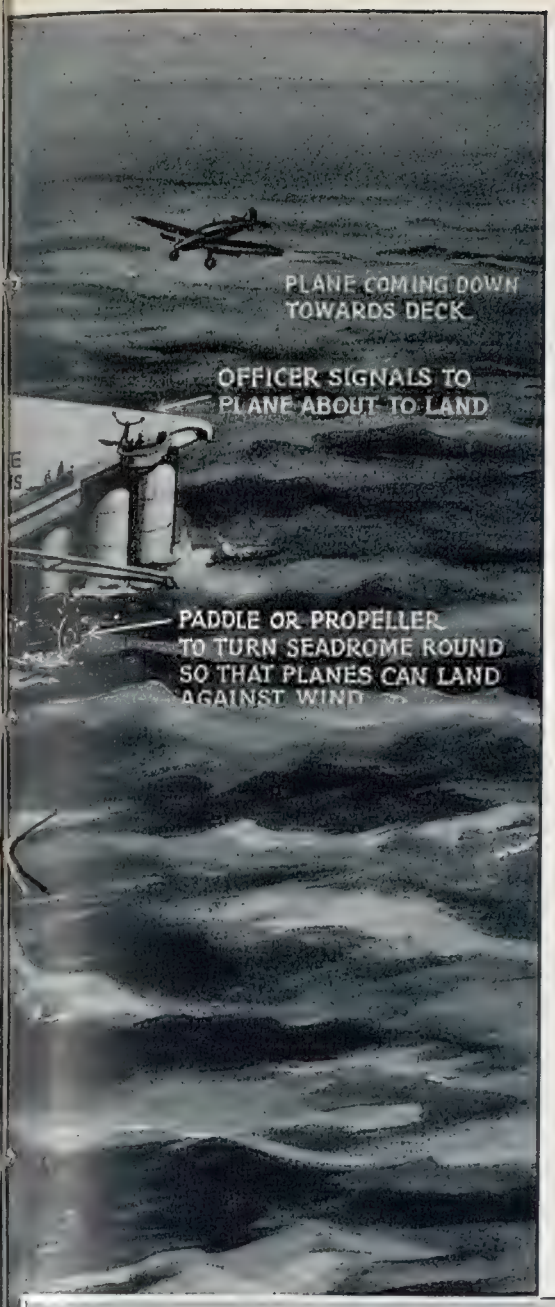
Here is the idea adumbrated in Mr. Grey's article: it shows the chain of floating aerodromes spanning the Atlantic and affording the utmost protection to all friendly shipping on its passage to this country from the great arsenals on the North American Continent. The drawing above shows how each seadrome would be built—with a huge landing deck 1,000 feet in length; with lifts for conveyance of the planes to the workshops or refuelling bases; with Control Tower; and with anti-aircraft guns to repel attack and to support the fighting power of the aircraft which would go up to engage any enemy raiders intent on bombing the station. An interesting point is the paddle, or propeller, which would be necessary to turn the Seadrome round, so that aircraft could take off and land into wind. The drawing on the left shows the six stations spaced out to give a distance of about 240 miles between each point. The areas around these six stations would be patrolled constantly by reconnaissance and patrol planes, to create "Safety Zones" through which the convoys could sail steadily on their set courses

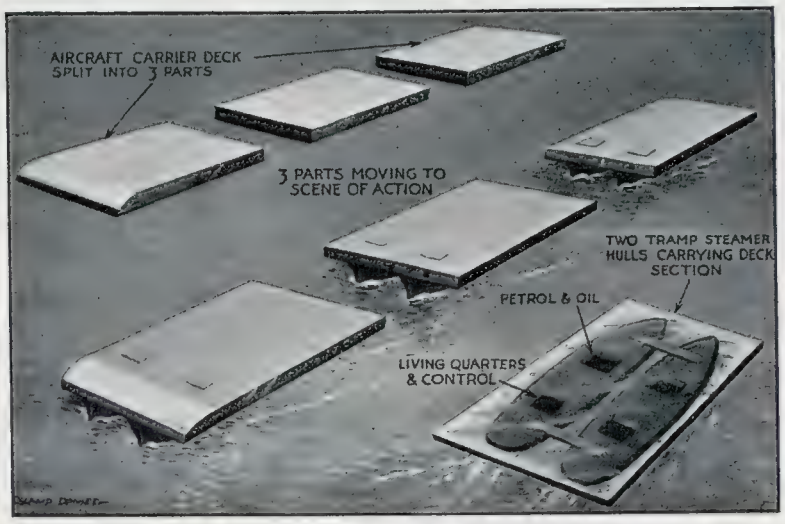
On right—

BUILT UP OF SIX BIG PIECES AND SUPPORTED ON BARGES—A HUGE FLOATING PLATFORM FOR THE REFUELLING OF FIGHTER AIRCRAFT OPERATING OVER THE ENEMY'S TERRITORY: As Mr. Grey states in his article, this idea is the suggestion of a British fighter-pilot who has since been killed in action. The great problem confronting our fighters at the moment is the comparative shortness of their range. When engaged in offensive action over the enemy's territory, however, fighters could go into action from close range if they were provided with some means of refuelling such as that shown here. By making the aerodrome in six large sections and mounting these on six large lighters, or on steamers specially prepared for their reception, the sections could be assembled quickly at any given spot—and hey presto! the landing ground (in the middle of the sea) would be ready. In place of anti-aircraft guns on the platform itself (these would be difficult to instal quickly) there would be special "Flak" ships—or anti-aircraft vessels—to protect the aerodrome.

OCEAN HIGHWAYS SAFE FOR CONVOYS *(Cont.)*

—And Three Drawings in Illustration of the Plan for Providing Fighter Aircraft Operating Over Hostile Territory with Refuelling Bases off the Enemy's Coast



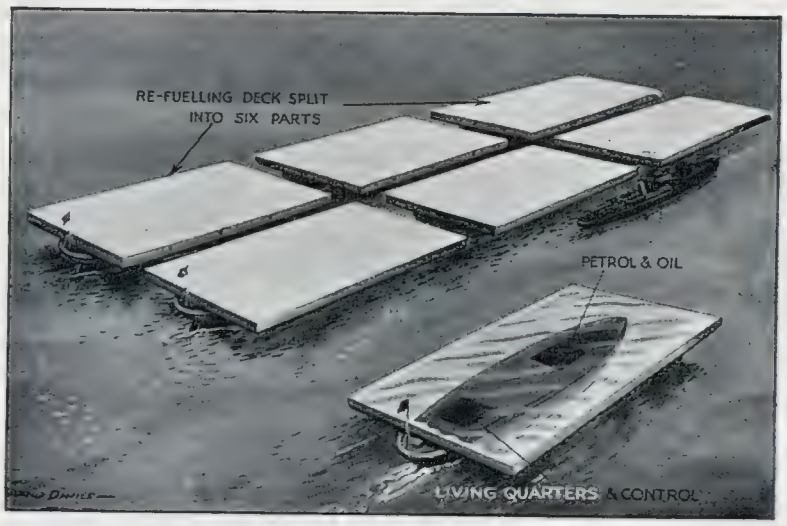


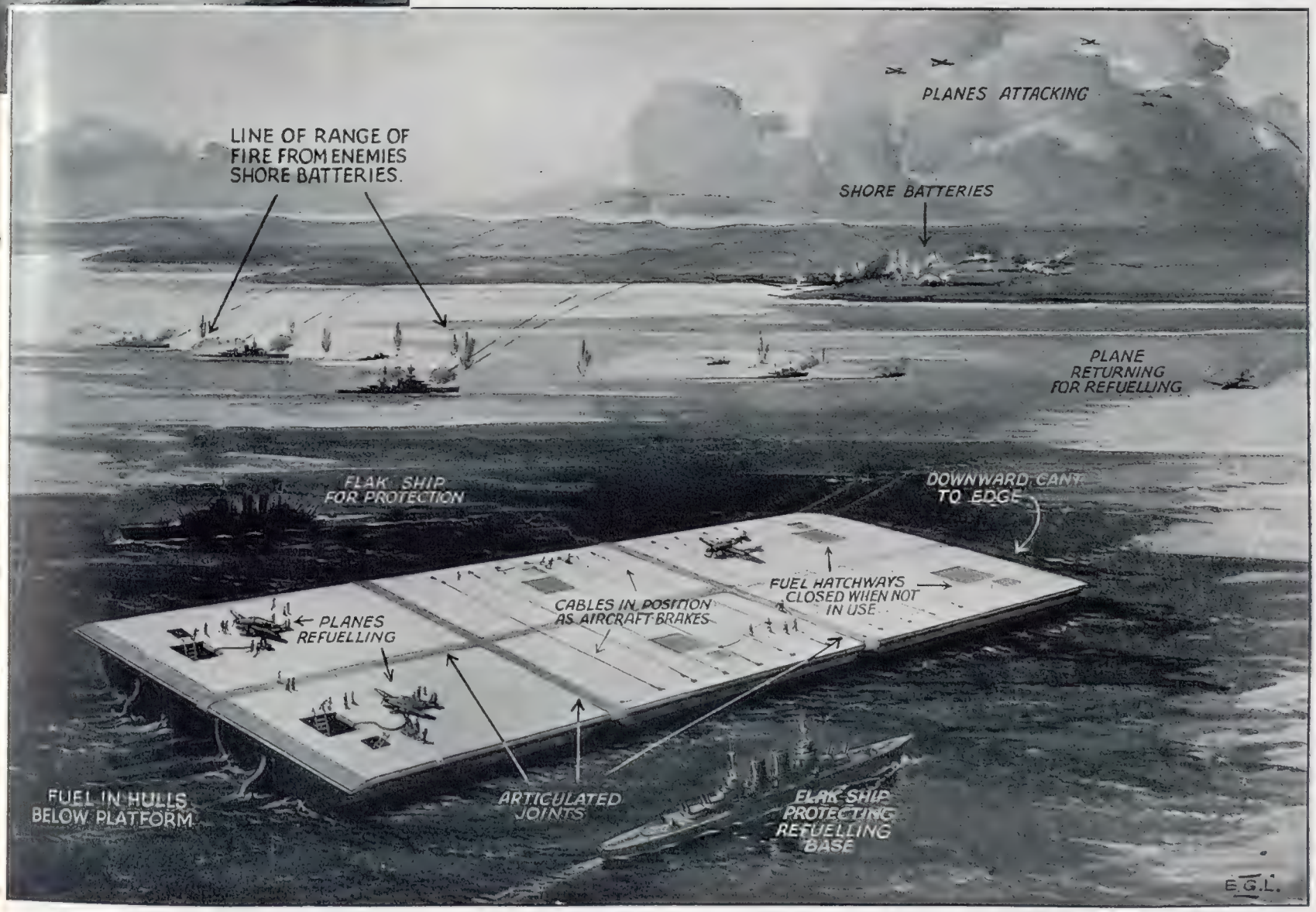
On left—

BUILDING AN "AIRCRAFT-CARRIER" AT SEA: Here is one suggestion for the creation of a refuelling point at high speed. Having coupled two tramp steamers in the manner shown, one-third of the landing deck is mounted on each pair of steamers. These are then towed out to the appointed spot, coupled together, and the refuelling base is ready! Petrol and oil are carried in the hull of the steamers below, where the living quarters for crews and mechanics are also located. Hatchways in the deck allow also for the passage of refuelling pipes and personnel

On right—

BUILDING A FLOATING PLATFORM AT SEA MADE UP OF SIX LARGE PIECES: The seadrome illustrated in its completeness in the large drawing below is shown on the right as it would appear before erection. It is composed of six large segments, each of which has been mounted on a large lighter or steamer. Each section would proceed under its own power to the point of assembly and would there be fixed to its neighbour. Again, there would be petrol and oil tanks in the hull below the deck





DENMARK : Air-General Kaupisch, one of the German Air Force leaders in the Scandinavian campaign, stalking with the air of a conqueror through a busy street in subjugated Copenhagen. This picture was issued by the Germans for propaganda purposes

NORWAY : One of the bands which accompanied the German troops when they entered Oslo is here seen marching through the streets of the Norwegian capital. The passers-by manifest only a casual interest in the scene

HOLLAND : Where the Fifth Column enjoyed its most notable triumph. The man in the centre, in civilian clothes, was probably one of these. The soldiers are German parachute troops who virtually conquered Holland on their own!

HITLER'S "NEW ORDER" FOR EUROPE

What It Is, and How the Seven Countries Enslaved Under the German Yoke are to Play Their Part in Its Achievement

WHAT is this "New Order" for Europe which Hitler is eager to put into operation directly he had finished the war victoriously? He declares that it means an era of peace and prosperity for the countries under the sway and protection of Germany. A certain Professor Pietsche has given some enlightenment, in an article in the *Kolnische Zeitung*, concerning this Continental plan, so satisfactory from the German point of view, but which is contemplated with so much reluctance by the other nations. "All Customs barriers in Europe," he writes, "would be abolished, the monetary system would be based on an index of the values of individual currencies in relation to the German mark. The Reich, as the greatest Continental State, would control the European economies, would rationally and justly distribute all capital goods and allot to each nation certain special tasks. Such a system, based on the principles of large area economy, would assure prosperity to Europe."

Some idea of how this high-sounding system would work can be gained by considering the actual conditions to-day of those countries now under the sway of Germany.

FRANCE UNDER GERMAN RULE

MONTMARTRE'S NON-PAYING "TOURISTS" : German soldiers belonging to the Army of Occupation in France on a sightseeing tour. The French inhabitants are forced to accept worthless "occupation marks" in payment for whatever the troops need

IN THE FRENCH PROVINCES : A scene in Rouen, where a Nazi soldier on point duty allows refugees returning from an outlying village to proceed

CZECHOSLOVAKIA, the best-organised and most prosperous state in Central Europe, was the first to enjoy the "protection" of Germany—that comprehensive term covering all forms of oppression. Yet six months before the occupation of the whole country, Hitler had declared that he was not interested in the Czech State, and would guarantee it. "We don't want any Czechs at all." At first there was an effort to give an appearance of a kindly "protection"—the Czechs would have their own Government and laws, but gradually all pretence has been removed, and the semi-independence of the earlier period has now gone. Every part of the life of the State is controlled by the Reich—industry, finance, all trades and transport. The part allotted to Czechoslovakia in the New Europe is that of agriculture, producing enormous reserves of food for Germany. Industries are unnecessary, as the skilled workmen of the Reich will produce everything required—so factories have been closed and machinery sold to Russia or carried off to Germany. As for education, this is being denied to the Czechs, whose lot is to be uneducated labourers, therefore secondary schools are being closed.

All the countries now under Nazi domination have a special treatment allotted to them, according to the political necessity of the time. **POLAND** is the appalling example of the treatment which any country may expect from a triumphant Germany unrestricted by any restraint of mercy or justice. A cold fury against Poland for bringing about the war, when she ought merely to have given way to Hitler's demands, seems to be the dominating note of the Nazi methods in Poland. Central Poland, the only part allowed to Poles and Jews, will be allowed no industries or general trade. Everyone will have the status of peasants. Unbelievable cruelty and barbarous tortures have been employed on the clergy and all intellectuals, to remove all possibility of future leadership. There has been no cynical pretence of any return to independence, but downright assertions of everlasting domination. Whether he hopes to turn Poles into Germans or not, he is determined they shall become serfs, working ceaselessly to produce food for their German masters, the *Herrenvolk*. No education will be required for these bond servants. The universities, museums, and laboratories have been robbed of their treasures. Food for the Poles is strictly rationed on starvation lines, but there seems to be complete indifference as to whether Poles live or die. Himmler clearly put out the Nazi theory—"the purpose of a victorious war is not to gain population but to acquire agricultural land"—evidently the more empty it is, the better.

In contrast to Poland, **DENMARK** is intended to show the other nations how excellent is the treatment of a country which does not resist the will of the Führer. Passage for Nazi troops, the use of her waterways and aerodromes was permitted, enabling an easy attack upon her unoffending neighbour, Norway, and in return Denmark was assured that her sovereign rights would be respected. Under her Labour Government, Denmark had made little or no preparation for defence, but had wrapped herself in the cloak of neutrality.

The result of the German control of their country has meant economic ruin for the Danish farmers, who found their trade with Britain immediately cut off. Not only that, but they could not obtain from overseas the fodder necessary for their cattle. This has meant great slaughtering of the herds, Germany enjoying the extra meat supply. Good prices were paid to the Danes in their own coin, which, at first, deceived the farmers into thinking that all was well. But now it has been brought home to them that the Germans have forced the Danish National Bank to accept their arrangement for payment, which is "after the war."

NORWAY was conquered by the sudden surprise assault of Germany and by treachery within, otherwise there is no doubt she would have made the Nazis pay heavily for their invasion. As it was, the Norwegian troops fought with courage and skill, and were only defeated by superior numbers and the opening of all ports to the invaders. Since the occupation they have suffered heavily, but the great bulk of the people remain confident that they will regain their independence, through the victory of their British allies. Their King and Government are established in England, and retain their confidence.

Hitler's plan for Norway was to create a puppet Government, with the traitor Quisling at its head, in all things subservient to German authority. In spite, however, of Nazi support, Quisling cannot persuade the country to rally round him. Those who wear his uniform dare not go out alone, for fear of assault, and there are constant demonstrations all over Norway against the Nazi domination.

THE "YOUNG FRONT" IN NAZIFIED PARIS : This is the organisation for young French Fascists run on the lines and in the footsteps of Hitler's own "Youth Movement." The French version was established only after the German occupation of Paris; needless to say, it is *not* popular with Parisians

THE HEAD OF FRANCE'S AIR FORCE RESIGNS : Rather than stay on under German supervision, General Vuillemin bids farewell to the men who fought with him in the Battle for France. The French Air Force was reduced in size drastically, and the General shed bitter tears as he took his leave

Though **HOLLAND** is suffering from the usual shortage of food, clothing and other necessities due to the German occupation, she is not being treated with the severity meted out to Czechoslovakia. The Führer's aim for the Netherlands, as far as it is defined, is to persuade the Dutch to join in with the Reich spontaneously, and to hold a favoured subordinate position under a Dutch Nazi leader. Brutal force is not practised in a wholesale manner, though there are many cases of arrests and punishments. The fact that the Dutch possess great wealth far overseas, where the Nazi power cannot reach, makes Hitler anxious to win over the Dutch by specious promises and so gain some kind of hold over the Dutch East Indies.

HUNGARY : An informal meeting at Berchtesgaden of Axis plenipotentiaries to receive Hungary into the Axis. Count Paul Telecki, Hungarian Premier, on the extreme left, and Field-Marshal Keitel, Army Chief of Staff, on the right (with hand upraised)

BELGIUM : A railway station destroyed by the Belgians and French as they made their retreat after the German invasion. Once again this unhappy country was the battleground for the warring nations in the opening stages of the struggle

FRANCE : Humiliation in excelsis ! A party organised by the German conquerors to show French journalists over their much-vaunted Maginot Line, which fell so easily into the enemy's hands when it was turned by the advancing Germans

Seyss-Inquart, the Nazi governor of Holland, complains that the Dutch are slow and dull, and fail to understand the true position. They all continue to hope for a British victory, when their own Queen and Government, now operating in England, can return to a free Holland.

BELGIUM. At the present time all real power in Belgium is retained by the German Army, which, over a million strong, pervades the whole country. The various branches of the Belgian Government are allowed to function with restrictions, but the presence of King Leopold, and the legal Belgian Government operating in England, complicate the original Nazi plan for the future of Belgium. Reports of all kinds have drifted about, but it would appear that Hitler himself is waiting upon events, and whatever part Belgium is to take in the New Europe has had to be left blank for the moment. Annexation, which was contemplated during the last war, would be highly pleasant to the Führer, but has been discarded as too risky just now. The separatist ambitions of the Flemish Nationalists have been encouraged, deluding the extremists into thinking they would be allowed freedom under the Nazis. Then there have been rumours of a wild scheme to unite all the Low Countries—Holland, Belgium, and Flemish France—into one State. One thing springs out clearly among the clouds of rumour that no definite demarcation of frontiers has been discussed—only the question of Luxembourg is settled: final and complete loss of independence by absorption into Germany.

What is to be the part of **FRANCE** in the New Europe ? Hitler holds out vague promises of a great position, if only the Vichy Government will show "mutual understanding" and "wholehearted and loyal collaboration in the construction of New Europe." Marshal Pétain tries to hold to the terms of the armistice, but, at the present moment, is being hard pressed to yield to further German demands, which are thought to mean the passage of troops through unoccupied France, and the use of the Mediterranean seaports. But whatever the immediate conditions, what hope is there for France in coming to an understanding with Germany ?

From all accounts of Northern France, the Germans are taking a very permanent grip upon the country, buying houses and settling down, getting a controlling share in industries, and giving every appearance of holding on to what they now occupy. The two provinces of Alsace and Lorraine are definitely annexed to Germany. They are now to be united to Germany for ever. All signs of French culture are to be removed, the Alsatians being ordered to change their names, both Christian and surname, and then they may be admitted as equal citizens. To the surprise of the Vichy Government, trainloads of Lorrainers arrived, deported from their own district, to make room for Germans. They had been offered the choice of land in Poland, but preferred the poverty of Southern France.

The position of **AUSTRIA** differs from the conquered countries in so far as Hitler was welcomed by a large section of the people, who were credulous enough to believe that an era of great prosperity was awaiting. Nearly three years under the Nazi rule has gradually disillusioned even the most pro-Nazi. Poverty has increased and the lack of independence has reduced the one-time gaiety of Austria to a grey listlessness. The presence of the Gestapo is loathed, and every opportunity is taken to show their contempt for the Prussians. The Austrians are showing more irritation and a spirit of unrest is growing, but they threw away their independence, and have now no leaders in their own country to direct any national effort.

THE SEVEN COUNTRIES WHICH HAVE BEEN OVERRUN BY THE GERMANS AND WHICH ARE ALL TO FIGURE IN THE "NEW ORDER" WHEN IT IS ESTABLISHED ON THE EUROPEAN CONTINENT

Much play is made by Nazi propagandists from time to time with the suggestion that Germany is promising to Europe a new and splendid "Order" which would give all kinds of nebulous industrial advantages to the seven unfortunate countries on which the new Order is to be implanted. On examination, it appears that under the "New Order" each of the seven countries is to be controlled so that all the higher industries requiring skill and knowledge and all learning are to be concentrated in Germany, and only such subsidiary outlets for employment as will not disturb this arrangement are to be permitted. The New Order can be tested by the manner in which it is already working. Factories, high-grade schools and universities are closed or closing, so that not only will trading be controlled for the benefit of Germany, but access to books and learning will be cut off or rationed as determined by Berlin. Not all the countries are being treated in the same way. The worst effects are to be seen in Poland, where Polish life is being virtually stamped out: only acres for cultivation are required from Poland

***On left*—A "PRESS CONFERENCE" IN BERLIN :** It will be remembered that great play was made, many months ago, with a map which purported to show Prime Minister Reynaud's ideas of how Europe should be apportioned. The Germans were so determined to show France's perfidy that they organised a big Conference of the Foreign Press in Berlin to expound their views to them. Here is the Conference in progress, presided over by Dr. Boehmer (standing). Projected on the screen on the left is an enlarged presentation of the map under discussion

THE WHITE STEAM YACHTS OF PEACETIME ARE NOW OF A UNIFORM GREY : Many of them have been taken into the Navy and painted externally to accord with their sterner duties. The beautiful white and gold and the sleek sea-green of former days have gone, but the efficiency of these craft remains, and all shapes and sizes of steam yachts are now patrolling, despatch-running, watching for submarines, and on occasion attacking them. They provide excellent quarters for officers and men. No sailing yachts have so far been employed by the Royal Navy

A CONTINUOUS TASK OF THE BRITISH NAVY IN THE MEDITERRANEAN : For many months Italy had been attempting to convey to Graziani's force in Libya munitions of war and other supplies. A certain amount did get through, but recently the Navy began to take increasing toll from this type of enemy vessel. The submarine *Parthian* recently encountered a big 7,000-ton supply ship at a point "south of Italy" and sank her. Considerable scarcity of material must have resulted at the northern African ports, as vessel after vessel was either captured or sunk. The *Parthian* was in command of Lieut. G. Rimington, R.N.

THE LITTLE SHIPS AND THEIR WORK

A note by FRANK C. BOWEN

FUNDAMENTALLY the Navy is divided into "big ships" and "small craft" although such types as destroyers and submarines often run into a tonnage which is appreciably greater than that of many big ships of the beginning of the century. The difference is essentially in their organisation and routine; the capital ships, cruisers and aircraft-carriers have their daily divisions and set programme, but the little ships get along with the minimum of routine and the maximum of hard work.

Service in small ships is essentially a young man's job, although any number of veterans have cheerfully volunteered for it, and in many cases have had to be invalided out of it. It is the Navy's tradition that the ships remain on duty for their set term, weather or no weather, and as most of the smaller types are either very small, or else designed for speed in a manner which makes their motion particularly lively, the physical strain, coupled with the need of a constant look-out for enemies of various kinds, is very great for a middle-aged or elderly man, no matter what his training may be.

The SEA LADIES in GREY

The fact that yachts had been taken up by the Royal Navy for patrol and auxiliary purposes was officially revealed in the earliest days of the war, but few details have been published and their story must wait until the end of the war. Odd items can be pieced together from the casualty lists—*Campeador V*, *Warrior II*, *Gulzar*, and others—while the magnificent work done by yachts of all kinds, commissioned and uncommissioned, in the evacuation of Dunkirk was a wonderful story. Between the end of the late war in 1919 and the outbreak of this one in 1939 there has been a very great change in yacht design. A large number of the old steam yachts, beautiful to look at and costing a lot of money in their day, have been discarded on account of the expense of keeping them running. The average size of the boats available for the British and American Navies to-day is, therefore, considerably smaller than it was in previous wars, but this is largely compensated by improved design

Drawings by Montague Dawson

AN OIL-TANKER CONVOYING PETROL AND OIL TO SHIPS OF THE ROYAL NAVY OFF THE LIBYAN COAST

Among the smaller vessels of the Navy, the tanker must be rated very high. These solid, businesslike craft carry on their work in all weathers and in all waters where the Navy are operating. In the case depicted above, the tanker has just refuelled a group of British warships off the Libyan coast and is standing off on her homeward trip to reload with petrol and oil and to begin her work all over again

THE BRITISH FLEET TUG IS A VESSEL OF STURDY BUILD AND OF TREMENDOUS POWER: The Fleet tug is a small member of the British Navy, but it is a pleasure to see them demonstrating their power in towing some lame duck home to port—giving the vessel a "pluck home," as the saying goes. They are ready for any kind of work which comes along in wartime, and like all the small craft, are kept incessantly busy. They form one small part of the little vessels of the Navy which takes up quite a big space in the "Seamen's Bible," otherwise *Jane's Fighting Ships*

So many different types of vessel are included in the category of small craft that the personnel is naturally very varied. The submarines have practically all regular Naval officers and men, specially trained for years, although in the late war a number of Royal Naval Reserve officers were included as navigators. The destroyers are mostly regular R.N. men, but they generally carry one R.N.R. officer, and their lower decks include a certain number of Royal Naval Volunteer Reserve ratings and seamen who have joined the service for the period of hostilities. For a non-Regular service man to be chosen for destroyer work is a tribute to his ability. In the smaller types the manning is more varied. Corvettes, escort vessels, patrol vessels and the regular minesweepers are generally commanded by R.N. officers, and have a proportion of their lower-deck ratings from the regular service.

The ships vary as much as their officers and men. Destroyers and submarines are, of course, quite familiar to the general public, but the other types are not so well known. From Stuart days to the end of the late war the Navy had a convenient class, the sloop, which covered a wide range of design, but some years before the outbreak of the present struggle the Admiralty sub-divided the type into escort vessels and patrol vessels. The escort vessels are more like the old sloops, 1,000 to 1,250 tons, with a speed of from 16 to 19 knots, and a very fair armament of quickfirers and anti-aircraft guns. As their name suggests, they are essentially for convoying, but they make a handy type which can tackle a score of jobs. The patrol vessels are smaller and faster, with fewer guns and more dependence on depth-charges. Designed principally for inshore work, the regular minesweepers lie between the escort vessels and the patrol boats in size; the slower types, the majority drawn from the fishing fleet, do most of the minesweeping.

During the late war it occurred to an observant Naval officer that the little excursion paddlers which run from the various coastal resorts—the "butterfly boats" as the deep-sea man calls them—had good speed and very shallow draught so that they might well be used for minesweeping with their ability to pass over the tops of most fields. In minesweeping they are joined by a number of trawlers from the fishing fleet, some of which were bought by the Admiralty during the Abyssinian crisis, and some of which were built by the Admiralty on fishing-boat lines.

In addition there are any number of small commercial vessels taken up for various purposes, generally with a large proportion of their peacetime crews, armed yachts, motor launches, tugs and any number of other vessels, all of them doing work which is of great importance to the conduct of the war, but which is an absolute mystery to most people outside the Service. Some of it is connected with the supply services, some with the blockade, some with anti-aircraft protection, and some is so secret that even the men engaged on it do not know its full details.

A word must also be said for the smaller Naval types which, normally designed for special service in peacetime, would seem to have little or no opportunity in war. The China gunboat *Aphis* proved that this was wrong on the Libyan coast. Originally designed to fight in Mesopotamia during the late war, she has high speed and a heavy armament on a draught of only 4 ft. of water. After the war she was sent out to China to patrol the rivers and to protect European shipping and lives against bandits and pirates. In the early days of the war it was generally understood that this service had been abandoned for the duration, but the work of the *Aphis* has shown that the material is as useful as the personnel.

Drawings by W. MacDowell

ONE OF THE NAVY'S "RARE PLUCKED 'UNS"—AN ARMED TRAWLER ON PATROL DUTY SPOTS A SUSPICIOUS-LOOKING CRAFT

The artist here shows a very efficient "rat-catcher," as the armed trawlers are termed. Their work is to go out on patrol, watching hour after hour some suspicious stretch of coast, or assisting in the work of hunting lurking enemy submarines. As soon as a submarine comes near, the trawlers close in and the hunt with depth-charges begins. At the same time the trawlers have to be ever on the watch in self-defence against enemy bombing craft. Numerous cases have recently occurred where the trawler has brought her attacker down

GRAZIANI'S BROKEN ARMY

—*A Study in Spring Fashions*

ONE BRITISH BREN-GUN CARRIER SUFFICES TO CONTROL THIS CROWD OF ITALIAN PRISONERS: These men are a sturdier lot than usual, possibly Bersaglieri or Carabinieri. There is no way of telling by badges or similar insignia, as such are removed from prisoners when they are captured. Metal badges have been used before now as tools to effect escape! Blackshirts can usually be picked at once by their theatrical beards and, before capture, by their carbines. As was remarked once—"If the beards were shorter, and the carbines longer, they would be better fitted for war"

A GROUP OF BLACKSHIRTS MARCH WILLINGLY INTO CAPTIVITY: Their clothing, it will be noted, is of good quality, although badly designed for desert warfare. Perhaps the young fellow in front was seeing somebody about that rather charming pup when he was captured! Note the businesslike automatic in the hands of our own sturdy guard at the side

ANOTHER MIXED BAG OF ITALIAN PRISONERS FROM CYRENAICA: These reveal the diversity of their clothing and equipment—as well as the scanty British guards required. Second man in the right-hand column is obviously a Blackshirt—"and proud of it." Perhaps the two gentlemen with carefully prepared suitcases are airmen. There is a great contrast always in these Totalitarian armies between the uniform and equipment of officers and men. The former are gorgeously arrayed, with a plethora of medals and decorations, velvet breeches and the like. Conscripts of the rank and file are definitely the worse off

A STUDY IN ITALIAN MILITARY HEADGEAR: It will be noted that the Italian forage caps are provided with flaps for fastening round the chin in bad weather, also with peaks for protection against the sun. The bright lad in the solar topee is a Blackshirt, one of Mussolini's picked men but not the most efficient! Neither in the campaign against the Greeks in Albania, nor against the British and Imperial Forces in the Western Desert have these men made much of a showing, despite their vain-glory and boastfulness in the piping times of peace. In the stern test of war they have been proved woefully lacking in many things—and not least in courage. And the Blackshirts were to have been the spearhead of the Italian attack!

THE clothing of those thousands of Italian prisoners from the conquered province of Cyrenaica—as revealed in the pictures published here—is not very impressive at first sight. It must be remembered, however, that prisoners of war, stripped of their weapons, badges and distinguishing marks, always bear a strange resemblance to old lags in appearance. Moreover, the dust-storms of the Western Desert, and the conditions of the fighting, have been bound to leave their mark—as the uniforms of our own men testify.

This point is made because many reports speak of the luxurious trappings of captured Italian posts, and the Italian is nothing if not a "chocolate soldier." The uniforms of the modern Italian Army are, indeed, almost comic-opera in their diversity, ranging from the sombre magnificence of the Blackshirts through a range of colours, green, grey, blue, white, to the ordinary khaki of infantry conscripts.

All this is diversified, moreover, by the curious badges of the so-called "crack" regiments of Blackshirt Militia, Alpini, Bersaglieri and Carabinieri. Death's-heads and thunderbolts, war-cries and terrifying mottoes—they mingle ferociously with a fierce armoury of belt-pistols, daggers, and other out-moded weapons.

It does not appear from the pictures that Graziani has taken much care of the comfort and fighting efficiency of his men. Hundreds of them apparently possess no overcoats—though they have had time, in most cases, to collect them—and the kind of French cyclist's knickers and tight puttees affected are hardly what a sensible commander would choose for desert warfare. A comparison with the airy shirts and shorts of our own men, surmounted by heavy greatcoats, points the moral sharply.

Moreover, the uniforms of the Italians, from the pictures, seem to be made of an unusually shoddy material, perhaps a mixture of artificial wool and cotton. Italy has been facing a textile shortage for some time: wool and cotton win wars. These pictures might explain much. But, as was said at the beginning, it should not be thought that the Italian soldier has no sartorial sense. In fact, it might be doubted whether he has anything else—at least, as far as *this* war is concerned!

ANOTHER SECTION OF THE 110,000 PRISONERS IN LIBYA: Waiting to be transported back to Egypt in their own lorries, some of which can be seen in the background. Thence they will be taken for a long holiday in either India or South Africa. The diversity of their clothing is clearly revealed here. Old-fashioned puttees linger in this discredited army, together with the solar topees, beards and baggy trousers of the Blackshirts

The WHEELS of VICTORY

—The Motorised Army of the Nile

THIS IS HOW THE ARTILLERY OF THE ARMY OF THE NILE WENT INTO ACTION : Advancing across powdery terrain towards chosen positions at speeds which private motorists in England would have considered highly reprehensible a few years ago. The gun shown in this picture is the familiar 3·7-in. anti-aircraft weapon. Unhitched for instant use, the two wheels at the rear swing into the air and the barrel mounts high on balance. Crew and ammunition are carried in the "limber," now transformed into a fast, covered truck. The triumph of the Army of the Nile was also a triumph for British tyre manufacturers, for it is they who, through many years of patient and costly experiment, made possible the heavy balloon tyre of to-day, on which many units of General Wavell's forces rode to victory through the sandy, stony desert. Without these monsters the advance would, of necessity, have been much, much slower. Moreover—and this is a most remarkable development—many of these huge tyres are bullet-proof, having been built on the "self-sealing" principle of the modern aeroplane's petrol tank: even the Germans, with their great technical skill, have not gone to such lengths to secure continuous mobility for their motorised units

ARMOURED CARS WHICH PERFORMED USEFUL WORK IN THE FIRST LIBYAN CAMPAIGN : British vehicles of this type—mainly Rolls-Royce and Lanchester—have led the world from the start of mechanised warfare, but have invariably scored their greatest triumphs in desert country. They are capable of speeds up to 60 m.p.h. and are armed with both machine- and cannon-guns. They have armour to resist small arms and machine-gun fire, with bullet-proof tyres of exclusive British invention, and they maintain constant wireless communication with headquarters—save during a large-scale action, when strict "wireless silence" is at first preserved. They were the scouts and outriders of the Army of the Nile, and it was their probing of weaknesses in the Italian defences that made the final armoured thrusts possible

TRUCKS OF THIS KIND GAVE MOBILITY TO OUR INFANTRY AS THEY HARASSED THE RETREATING ITALIANS : The above picture was taken in the fighting round Bardia, and the Bren-gun patrol depicted therein was composed of Free French Forces. Note the heavy balloon tyres on the British truck, fitted for rapid movement over the uneven ground. The greater part of the equipment of the Free French Forces has been supplied from British ordnance stores

THE MODERN "DIGGERS" OF THE SECOND AUSTRALIAN IMPERIAL FORCE HAVE FOUND IDEAL VEHICLES FOR THEIR CHARACTERISTIC DASH AND ENTERPRISE IN BRITISH LIGHT TANKS, PART OF THEIR OWN TANK CORPS : These were used in the Libyan operations as infantry tanks—that is, they advanced as cover for the Australian infantry, which performed such notable deeds, especially at Tobruk. The weapons carried by these tanks include heavy and light machine-guns, Bren guns, rifles and pistols. Members of tank crews have to be interchangeable. In an emergency they must be able to change over from the gun to act as wireless operators or drive the machine, and not be caught out should a running repair be necessary. In this picture, however, members of the crew are shown in characteristic positions, commander with field-glasses in the "fighting top," and driver low down in front

MANY students of our campaign in the Western Desert, after examining early photographs of the operations, must have been struck by the size of the tyres on wheels of trucks and guns. These out-size balloons have, indeed, played an important part in the drive to victory.

Anyone who has driven a car over rough ground will appreciate the difference made by balloon tyres. The out-size models on our lorries, guns and armoured cars have enabled them to make rapid progress over loose, rock-strewn desert without shaking the machines to pieces, and without time-wasting punctures. Few, if any, of the Italian vehicles captured had similar accessories. Their heavy, six-ton lorries made slow and cumbersome progress over the difficult terrain, and were sitting birds for our more mobile patrols.

But the big British tyres are even more remarkable in battle than on the desert road. This is because a large number of them are virtually bullet-proof. It is believed that no other country has developed a similar tyre. The principle, admittedly, is similar to that of the German self-sealing petrol tank, but has not been applied in the same way to rubber tyres by the Germans.

Roughly, the idea is not that the bullet should bounce off the tyre, but that should it penetrate the rubber the interior construction will prevent the tube from collapsing.

The War Office has had this tyre for some years, but has not talked about it. Undoubtedly it has helped our Army of the Nile by saving breakdowns and long repairs. The sight of those monster tyres in the pictures may make some of us reflect upon their expense, but in this case public money has certainly been well spent.

IT IS NOT GENERALLY REALISED THAT THE R.A.F. HAS ITS OWN ARMOURED CAR SECTION : This is of particular importance in such theatres as those of the Middle East, where ground facilities have to be created from scratch in desert country, and ground protection is required for the personnel concerned. The "airmen" depicted in this photograph may, indeed, "never fly," but they have a significant place in the modern military scheme. Co-ordination between aircraft and tanks was one of the secrets of the German success in France. Perhaps the R.A.F. may here be creating the nucleus of an interesting new order. Note the coils of rope on the cars, ready for such work as towing disabled aircraft

AIR COMMENTARY—By C. G. GREY (Founder of "The Aeroplane")

MEDITERRANEAN CONVOYS and the R.A.F. in CYRENAICA

—Geography and History Combined; Ending the War in Germany Itself; Thinking in Continents, and Keys to Locks; Italy's only Unsinkable Warship

IF history and geography were properly taught in schools we should have fewer idiotic mistakes in politics and in lots of other ways. In fact, if the mass of the peoples knew a lot more of those subjects we should probably have no more wars, and possibly no more politicians.—(See Kipling's story, *As Easy As A.B.C.*, about the "Aerial Board of Control" of the future.) In a small way to-day we see this same ignorance of geography leading to lamentable errors, just as it did when our politicians were settling the boundaries of "self-determined" states, or "succession" states after the War 1914-18.

For instance, many people think, and some have written, that General Wavell's (*and* Air Chief Marshal Longmore's *and* Admiral Cunningham's, don't forget) capture of Benghazi is going to make the passage of our ship-convoys between Sicily and Africa easier than it was. They have a notion that our fighters can dash off airily from the Benghazi and Barce aerodromes and slaughter the Stukas as they try to dive-bomb our transports and warships just as they flew from our South Coast aerodromes to massacre the German aeroplanes over Flanders. As they do not look at maps they ignore that fact that from England to France is 20 miles or so, whereas from Cyrenaica to Sicily is something well over 500 miles. And present-day fighters cannot go that distance and back and still have petrol left with which to fight—whatever the new fighters may do.

By the time the convoys have steamed far enough East from Malta to be covered by our fighters from Cyrenaica they will be well out of range of the Stukas from Catania in Sicily. That excellent map on page 178 of THE SPHERE dated February 8 will help to increase the stock of intelligence (in the military sense) of the readers of this paper, who are intelligent people, anyhow.

An interesting thing in that map is that all the Capes in Malta are called "Ras" this, that, or the other. Will some philologist tell me whether remembering that Malta was a Phœnician, and therefore Canaanite, and therefore Hamitic settlement, and that the Abyssinians are Hamitic, there is the same sort of connection between an Abyssinian Ras (or Chieftain) and a Maltese Ras as there is between a Cape and a Captain—both derived from *Caput*, a Head?

Even if we held Tripoli itself we should not be so much better off. Malta would still be more than 200 miles away. But the convoys could, certainly, turn South as soon as they were clear of the 80-mile strait between Tunis and Sicily, and so bring themselves under cover of our fighters some 250 miles sooner than they can reach the protection of our Air Force at Benghazi.

Not many people seem to know of the risks General Weygand took to pull things straight before the French collapse in June last. His flight from Syria to France, and then, almost next day, from French Army G.Q.G. to Flanders to confer with Lord Gort and the French and Belgian High Commands, and back again over country full of German troops, through air seething with German aeroplanes, was not the sort of thing of which Commanders-in-Chief make a habit.

The Flying Truck.—Talking of air seething with enemy aeroplanes recalls a description by one of our pilots of ferrying a senior officer across France at that time. To be as inconspicuous as possible they were flying low along a railway line when his passenger nudged his arm and pointed out of the side window—"And there," said my friend, "was a railway truck flying alongside us. We had run slap underneath a formation of bombers which was wrecking the railway, and the sky above was full of fighters as well." I gather that they changed course abruptly.

But those Libyan aerodromes may be very useful for our heavy bombers if and when we have to blast German aircraft and seacraft out of Sicily and Southern Italy, if the Germans try to reinforce the Italians in Tripoli with Air Force and troops. If they do, I imagine that their idea will be only to anchor General Wavell's Army to Africa, or to try to induce us to reinforce him and so weaken our Army and Air Force at home, so that their threatened attack on this country may have a better chance of making a show before it is beaten.

The Greek aerodromes are, in fact, much nearer to Italy than are any in Africa, but I have always heard that they are small, and not suitable for big bombers. So the limitless aerodromes in Libya are probably better, in spite of the added distance.

I cannot see the Germans hoping to win the war by beating us in North Africa or Asia Minor. They know as well as we do that this show has to be settled in Europe by a British Army on its own flat feet in Germany. And the R.A.F. as the spear-head of attack will have to batter the road clear for the Army.

One might imagine a revolution in Italy and the landing of British Imperial Troops from the East who would drive the Germans out over the Brenner Pass as Belisarius and his successor drove the Goths out of their Italian Kingdom. And thus we might attack Germany through Austria, as we had hoped to do in 1916-18 from Salonika through Serbia, as it was then. But a direct attack on Germany would be more convincing to the rest of the world and very much more convincing to the Germans themselves.

As a means of showing the German people that they are beaten, a German defeat in the air or on land in Germany is worth half a dozen in any foreign country. Similarly, every German aeroplane shot down in Germany is, to us, worth a hundred shot down in this country or in the Channel.

Let Us Ask Him Over.—By the way, reports from the States say that my friend, Major Al Williams, late star pilot in the U.S. Naval Air Service, and the best writer on Aviation in America, said in his evidence before that interminable Lease-and-Lend Committee that he did not think that Britain could win. If Al Williams could be induced to come over here and see for himself as have Mr. Willkie and Mr. Hopkins and the others, he would change his mind. And his opinions, published daily in the Scripps-Howard chain

ONE OF THE NEW U.S. FIGHTER AIRCRAFT NOW IN BRITAIN: A TOMAHAWK TAXI-ING OUT FOR A TEST FLIGHT BY AN R.A.F. PILOT

ANOTHER FIGHTER TYPE NOW IN BRITAIN FROM THE UNITED STATES—THE BUFFALO I

These two pictures were taken at a Station in England where U.S. aircraft are uncrated, assembled and tested by R.A.F. experts before being put into service with the various commands of the Royal Air Force. The types dealt with at this Station include both bombers and fighters

THE PILOT-ORATOR: A scene in a factory where parachutes for the R.A.F. are manufactured. The orator is a fighter-pilot whose life has been saved by a parachute packed in this factory and by these girls. He is modestly supported in the background by two of his comrades

THE END OF A GERMAN STUKA DIVE-BOMBER: Four Spitfire pilots, on patrol, spotted a Junkers 87 dive-bomber manœuvring to attack a Convoy at sea. They immediately went in to the attack and shot down the enemy, who crashed on the coast nearby. Here the victors are examining the wreckage of their victim

of newspapers, whose readers run to many millions, carry more weight than those of any but a very few American politicians. So what about asking him over? There is a suggestion to the Ministry of Information, or the Air Ministry, or the Royal Aero Club, or the Royal Aeronautical Society, whichever may be interested in letting America know what is right with our Air Force.

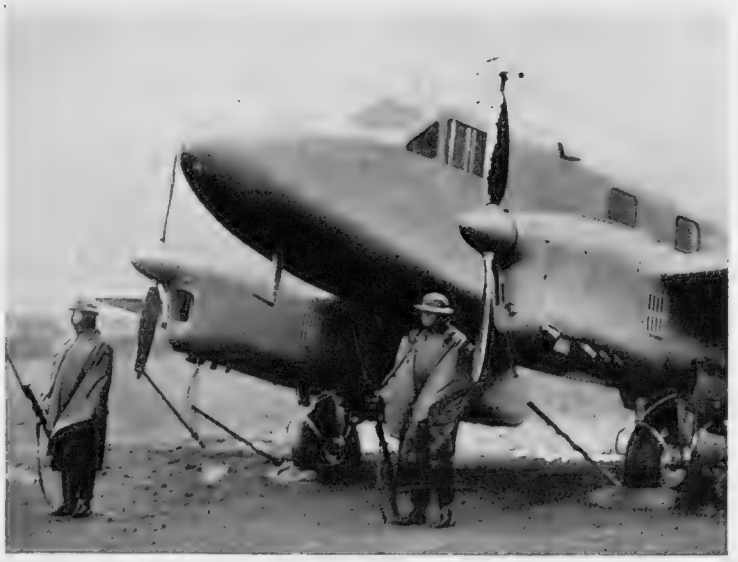
Thinking in Continents.—When Laughton O. Zigler and old man van Zyl, in Kipling's gorgeous story of the automatic gun in the Boer War, were rounded up, their British captors discussed whether to send Commandant van Zyl to Saint Helena or Umballa, in India, and, said Mr. Zigler, "They talked in Continents! It scared me cold."

To-day the British Empire still talks and thinks in Continents. Because our aerodromes in Great Britain are a bit thick on the ground we send our young volunteer pilots to Canada to learn how to fly. And the British Commonwealth Air Training Plan—commonly and less magniloquently called the Joint Air Training Plan, or J.A.T.P.—takes on training Australians and New Zealanders as wel. as Canadians and British-born pilots and air-crews.

James S. Duncan, Acting Deputy Minister of National Defence for Air, speaking in Calgary, Alberta, on January 9, reminded the World that the J.A.T.P. was only born on December 17, 1939. Already in the Prairie Province alone they had 28 training units in operation, which were manned by 10,000 officers and men and more than 1,000 civilians. By the end of this summer they figured to have 44 units with a staff of 15,000 officers and men. In the whole of Canada, he said, they reckoned to have 83 schools, with 40,000 men on their staffs—which would be about equal to the whole staff of the Canadian Pacific Railway. With permanent staffs of that size one may guess at the numbers of pilots, air-gunners, navigators, radio men and mechanics. We finished the last war with 30,000 officers and 300,000 men in the R.A.F. This time we look like running into millions.

Already old man van Zyl's grandsons, and their contemporaries are at work in Kenya Colony, as members of the South African Air Force, using German Junkers bombers, bought by their former Minister for Defence, Mr. Oswald Pirow, against the Italians in Somaliland. The Rhodesian Air Force, built on lines like those of our Auxiliary Air Force, is far North knocking spots off the Italians in Eritrea. Home-trained Australians and Canadians are flying with Sir Arthur Longmore's force in Libya and with the R.A.F. squadrons in Great Britain. We may not be a Continental Power, in the political sense, but we seem to have some power somehow in a lot of Continents.

But even our Continents may be an embarrassment at times. There seems to be a move *in* Australia to induce the British Aircraft Industry to move itself bodily to Australia to be out of bombs' way. Whether Mr. Menzies, the Australian Prime Minister—who, I am told, calls himself as spelled, and not Mingies, as a Scot would—approves or not, other Australian politicians do. The obvious objections are that there are not enough people in Australia to man (and woman) the Industry; that there is not enough shipping to take the machinery to Australia; that the British workman, and his family, would refuse to go (conscription of Labour or no), because they would not like to be called rats forsaking a sinking ship; and that the Chiefs of the Industry would not be pleased at the idea of starting a great industry overseas to supply a market which they will want for themselves after the war—which was the chief objection to making air-frames in India, you may remember.



A FRENCHMAN ESCAPES BY PLANE FROM THE NAZIS: A young French air mechanic—who evidently does not like life under German rule—has just landed at Tregantle, in Cornwall, in a seven-passenger cabin plane which he stole from an airfield in Occupied France. This was his second attempt to reach Britain. Here is his aircraft under armed guard after his safe landing in Cornwall

The Keys to the Locks.—I am pleased to see that the Fleet Air Arm has been trying to torpedo the locks, or sluices, of Sardinia's storage-lake for the island's hydro-electric plant. I have been a believer in torpedoes as the best keys with which to open locks ever since a Naval cousin of mine told me, just after the Kiel Canal was opened, that whenever one of our torpedo-boats went up the North Sea with war-heads on its torpedoes for special practice, every snotty on board was certain that they were bound for the gates of the Canal.

At Zeebrugge, in the last war, the gates were awkwardly placed for torpedo attack, and anyhow our Sopwith Cuckoos and Blackburn Kangaroos were not properly developed as torpedo craft until the war had gone inland. The Royal Naval Air Service tried bombing the lock gates, because the U-boats used to be parked in the Canal, but never hit them. And several people wanted to use torpedoes instead of bombs against the lock-gates at Kiel and Brunsbüttel in this war. Why not try both?

Italy's Unsinkable Warship.—We are still waiting for those pictures of Panty-le-riah, Italy's only unsinkable battleship. We have seen the *San Giorgio* under water, and several others in a bad way. So Pantelleria must be a comfort to the Italian Navy. A Navy chap, who saw a lot of it during the last war mostly through a periscope, lurking for enemy vessels from the Adriatic, describes it—in the manner of Lady Macbeth—as a "damned spot." He says that it gives no shelter for small craft—though presumably it has a harbour—and, nose round it however the wind blew, they never got a real lee. He says that its contour is that of half a walnut shell, flat side down—which, considered aerodynamically, would explain its giving no lee, for the wind would sweep over it and down to the sea on the other side without breaking. It has no room for an aerodrome—despite Madame Tabouis—no shelving coast, and has trees all over it, presumably olive trees, which apparently will grow in solid rock.

A Useful Hint.—One does not generally look upon toothache as a cause for rejoicing, so, when lately a friend cancelled a lunch by sending one of the most cheerful "Greetings Telegrams" in the Post Office stock, because she had "a date with her gum-architect," I was rather sunk. There might have been a suggestion of pleasure at getting out of the lunch. Then I got the idea. In these days when a telegram comes one has a spasm of fear that it brings bad news. If one's youngsters or contemporaries are in the Services the anxiety is always there. Even a lone civilian has relatives whose obliteration by a bomb would bring sorrow. Lawyers would hardly think of sending a Greetings Telegram to notify a legacy. But I commend the use of them for all other happenings.

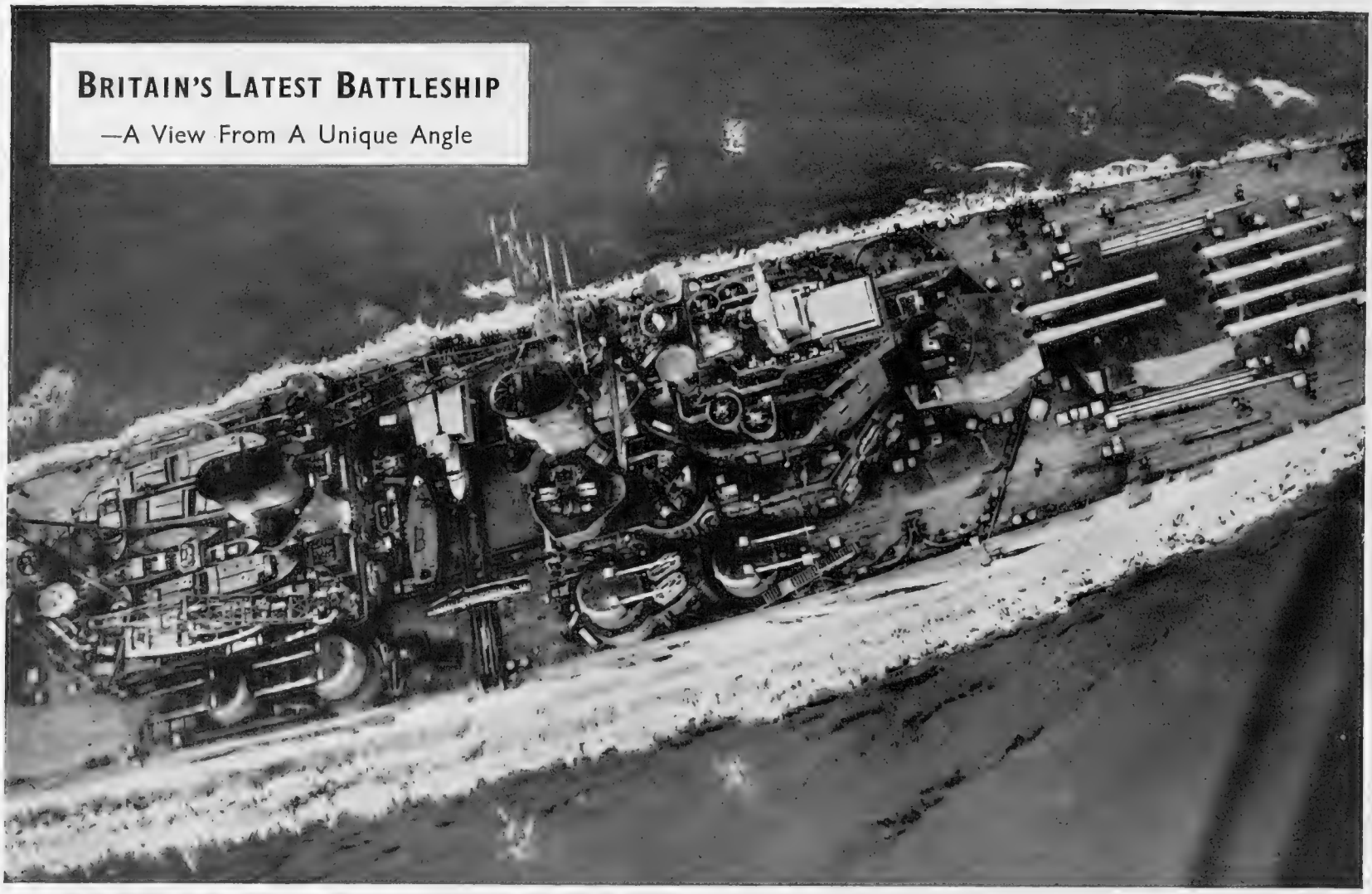
A [illegible]MBER FROM AMERICA: A head-on view of the Douglas Boston II, showing the front wheel of the tricycle undercarriage. This wheel retracts backwards into the fuselage after the take-off

THE END OF A TRANSATLANTIC FLIGHT: Every day aircraft are being flown across the Atlantic from Newfoundland to Britain in pursuance of the plan to get aircraft here from the United States in the shortest possible time. American and Canadian pilots are, largely, carrying out this work. Above, a Lockheed Hudson is seen circling the aerodrome "somewhere in England" before landing after its lengthy flight

AIR VICE-MARSHAL R. H. PECK CHATTING TO PILOTS WHO HAVE JUST LANDED AIRCRAFT FLOWN OVER FROM AMERICA

BRITAIN'S LATEST BATTLESHIP

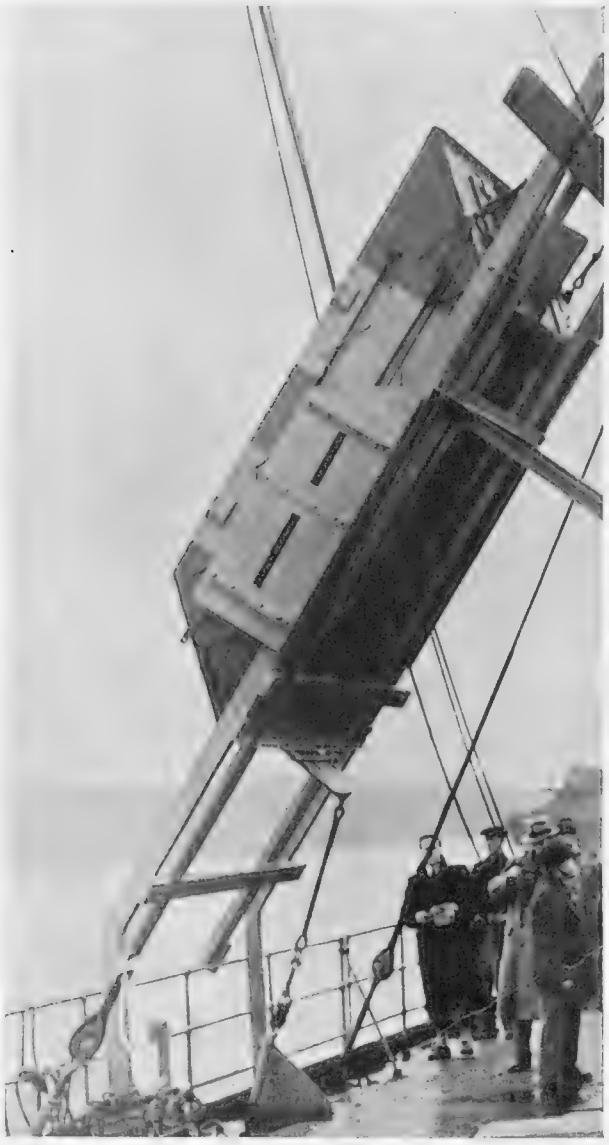
—A View From A Unique Angle



LOOKING DOWN ON H.M.S. "KING GEORGE V": A VIEW TAKEN FROM ABOVE BY AMERICAN PHOTOGRAPHERS AS SHE STEAMED UP CHESAPEAKE BAY

In a previous issue of "The Sphere" we published photographs of Britain's newest battleship, and last week we presented a double-page drawing by Mr. Montague Dawson. The "sensational" air picture reproduced here was obtained by an American photographer who flew low in an aeroplane over the *King George V* as she steamed up Chesapeake Bay, carrying Lord Halifax to the United States. A close examination of the picture shows groups of sailors on the vast decks gazing upwards as the photographer's aircraft dived down. Note the terrific size of the guns in comparison with the human figures, and the swirling wash indicating the speed at which the battleship was travelling. *King George V* is probably the most powerful fighting machine afloat to-day: her fire-power is tremendous. She is one of five ships of the same class all laid down in 1937: she has a displacement of 35,000 tons and carries ten 14-in. guns of a new model, with an effective range greater than that of the 15-in. guns mounted in earlier ships

A LIFE-SAVING RAFT for the MERCHANT SERVICE



THE CHIPCHASE LIFE-SAVING RAFT BEING STOWED ABOARD READY FOR INSTANT LAUNCHING

WHAT HAPPENS AFTER THE RAFT IS LAUNCHED: THE CLEVER WAY IN WHICH IT HAS BEEN DESIGNED TO FORM A BLUFF-BOWED SAILING CRAFT

It is the Merchant Navy of Britain which is, at the moment, the object of the Nazis' unrelenting attacks—by U-boat, surface-raider and aircraft, and numbers of fine ships have been sent to the bottom by these craft. Anything which can aid the merchantmen in their hazardous undertakings is to be applauded. Mr. R. S. Chipchase has just invented the clever life-raft illustrated here, which is said to be bullet-proof and unsinkable. The raft is a box-like concern which can be launched from its resting-place in a few seconds—an important consideration as, often, only a very short space of time is allowed for the crews to get clear before their vessel sinks beneath them. When in the water, it opens up in the manner above shown. Inside the box is a short mast and sail, oars, provisions, water, etc. It can carry a large number of men and can easily be navigated, even in rough seas

The True Importance of SLEEP

SLEEP ROBBERS ARE ACTIVE BUT YOU CAN BEAT THEM!

EVERYONE knows Napoleon's famous dictum that four hours' sleep a night is enough for any man. He claimed that he himself never had more.

His contemporaries have reported that he would sometimes go for days without sleep and then make it up by sleeping for 24 hours — and he could sleep anywhere provided he was in darkness.

Beethoven, Dr. Johnson, the Duke of Wellington, Darwin, Edison and Spencer are examples of other famous men who are said to have managed on three or four hours' sleep a night.

Could we all do the same? What do we know about sleep?

WE know that sleep is more necessary than food. A man can live more than a month without food and recover completely. Ten days without sleep brings death.

Experiments on animals show that if an animal is prevented from sleeping for several days, some of its cells are destroyed beyond repair. If the animal's sleep is merely cut short, the symptoms are the same as if it had been starved or poisoned.

Of course absolute insomnia of that kind never occurs in ordinary life because sleep of a kind comes to people even in the most unfavourable circumstances. Soldiers sleep on the march, just as birds such as the swallow and frigate-bird sleep on the wing. Even in intense pain, people sleep.

ABSOLUTE insomnia is experienced only by people in extraordinary situations. Long-distance flyers, for example, suffer it for a short period and find it their greatest difficulty.

Scientific workers also, when doing research on sleep, have occasionally experienced *absolute* insomnia. They cause themselves to be prevented from sleeping in order to study the effects. They usually behave as though intoxicated, and later become delirious. One of them has reported that he fears a repetition of this "experimental" insomnia worse than any imaginable pain, and fully understands how effective was that ancient torture which consisted of forcibly keeping a person awake. Even the ordinary wakefulness that we call insomnia, is torture enough. Lord Rosebery, when Prime Minister in 1895, never got more than four hours' sleep and it was his fear of suffering again in this way that prevented him from returning to office.

"I have an absolute conviction," he wrote in 1903, "that were I to return to office, I should once more be sleepless. I cannot forget 1895."

WHAT was the difference between Lord Rosebery and the other famous men who have maintained invincible energy on similar short rations of sleep?

Common sense suggests that the difference was in the *quality* of their sleep. The four hours' sleep of Napoleon and the other mighty men was deep, refreshing sleep — what has been called 1st Group Sleep.

Lord Rosebery, on the other hand, must have had the shallow, unsatisfying 2nd Group Sleep.

There is a vast difference in the effect of these different groups or levels of sleep.

The one leaves you refreshed, feeling a new man, strong and able to cope with the difficulties of the day ahead of you.

The other leaves you exhausted and fretful, fearful of what the day may bring.

SINCE sleep, and the lack of it, are matters of greater importance to-day than ever before, we all need the first kind of sleep. *How* to get it — that is the question.

Dozens of suggestions for getting to sleep have been advanced. One famous London doctor says that thinking of a black target against a black background is better than counting sheep. Another recommends closing the eyes — and then trying to see your eyebrows!

Actually, however, the problem for most of us is not so much one of getting to sleep as of getting a few good hours of the right *kind* of sleep. This is where Horlicks can help you.

People find that after taking a cup of hot Horlicks last thing, they get that lovely, deep, restoring sleep. They not only wake up refreshed; gradually their health and spirits improve all round. If you want to know again the wonderful "healed" feeling that comes from really good sleep, take Horlicks to-night. *It is still at pre-war prices:* from two shillings at chemists and grocers.

'VIYELLA' Service Shirts are of a quality and fit which remain cheerfully unimpaired by hard wear and hard washing. And while they are cut with room for easy movement, they are tailored with that meticulous attention to detail which their association with a uniform demands.

In Regulation Khaki, White and Air Force Blue, 16/4 (with two collars, 20/-). Viyella Service Socks, Khaki and Black, 3/7. Ties, Khaki and Black, 3/-. (Prices include Tax).

'Viyella' Regd. *Service Shirts*

Obtainable from high-class hosiers and outfitters. Write for the name of your nearest supplier. William Hollins & Company Limited, Viyella House, Nottingham.

WILLIAM HOLLINS & CO. LTD. DAY NIGHT VIYELLA HOUSE NOTTINGHAM

After DUTY—15 minutes' pleasure and satisfaction with a CHURCHMAN'S No. 1

Going to it. A cheerful group of pilots returning from a patrol flight.

★ *It is now more than ever necessary to empty your packet at the time of purchase and leave it with your Tobacconist.* Churchman's No. 1 Cigarettes: a fine 15 minutes of smooth smoking. 10 for 10d., 20 for 1/8d.

C.352a

AN ESCAPE FROM THE WAR

"One Book" Authors; Vitality and Mr. Blunt; Advertisements Sixty Years Ago; Plantation Seeds

"ONE-BOOK" AUTHORS.—Here is a literary theory which may bring down on my head all the controversy and scorn of partisans and the intelligentsia. It is, baldly: that many of our giants of literature in the novel form were really "one-book" men and women. I must qualify it by the condition or admission that the higher the standard of excellence reached by such giants, the wider is the gulf between their worst and their best; or, put in another way, the second-rank author maintained a more consistent average of merit than the giant. But if I name my own opinion of the "one-book" of various giants, I disturb the whole swarm of individual preferences! However, a literary storm is an "escape" from a war blizzard or typhoon and my rashness may be excused or condoned. Thus, I put *Pride and Prejudice* so far above Miss Austen's other four, including *Emma*, that I place her first among the "one-book" giants. Thackeray's "one book" must be *Vanity Fair*, with a hedge on *Esmond*. Charlotte and Emily Brontë were "one-book" giants. Of Dickens I dare not speak. I might fail to find a "one book." Scott I will allow as an exception, though the gulf between his best and worst is as wide as any. In the second rank of the Victorians, Trollope holds a more consistent average of merit than his contemporary giants. But Henry Kingsley, who wrote many novels, was a "one-book" writer with *Ravenshoe*. Coming to our own times, Arnold Bennett gave us *The Old Wives' Tale* among many lesser works. Stevenson is undisputed probably only for his *Jekyll and Hyde*, though I would hedge with *Ballantrae* and *Weir* (so far as it goes). Hardy is immortal for an epic drama. Conrad, like Trollope of an earlier day, is a lesser giant with a very high average of merit. Somerville and Ross gave us—*inter multa alia et bona*—*The Real Charlotte*, a first-rate novel. Samuel Butler gave us *The Way of All Flesh*; Conan Doyle *Rodney Stone*, an excellent effort of its genre. . . .

But enough. I do but scratch the ground, to bring the ants up busy and angry. Let me hear from outraged readers who condemn the theory or broadly admit it as tenable.

The Vitality of Mr. Blunt's Diaries.—Wilfred Scawen Blunt, poet, Sussex landowner, rebel, Arab-horse breeder, republican, was a man who always counted in his day—a long one—for his fearless frankness, his persuasive clarity, his influence with politicians and literary and artistic lights of all parties and types, his vitality, his championship of minorities and his versatility.

He "knew everybody" in Europe, Egypt and the Near East, England, Ireland, London, and he suffered stoically for many causes. More than that, everybody *knew* him, and many feared him.

He was a notable poet. He has a big entry in the *Oxford Book of English Verse*, and some of his poems must attract almost every taste. Yet I think his greatest claim to fame is his genius as a diarist. There exists nothing much better in that genre. He was *impersonally* as frank as Pepys was personally frank. His prose style is inimitable. His commentary on political events and his prophecies of their effects were usually remarkably shrewd.

Like Creevey, he was reckless in recording gossip and scandal and always impartially corrected any such scandal which proved to be false. But he recklessly published the false rumour none the less, regardless of the fact that the victims were alive, and even young, and often among his acquaintances.

His thumbnail portraits of dead personalities and of living notables were as diamond-hard and diamond-bright as Greville's, usually just and always arresting. There was nothing petty about him. His intellect was big and broad.

His character-sketches of such men as King Edward VII, Father Tyrrell, Cromer, Gorst, George Wyndham, Mr. Churchill, are valuable contributions to truth and history. The diary series of the years leading up to the War of 1914-18, the reign of King Edward and the first years of King George V, is a vital contribution to history and as vital to-day as when it was published. Herein you may read his impressions of, and his prophecies concerning, the young Winston Churchill, and many others who are still key men. I can recommend no book more valuable as "escape" literature.

Advertisements Sixty Years Ago.—Anyone who comes across a journal or other publication carrying trade advertisements half a century ago must be struck by two features which contrast with the present policy of advertisers.

1. How very few are addressed to women.

2. How enormous a proportion deal with patent medicines. The appeal was then largely to the *gentry*; the diseases to be remedied were for the most part the ills of gentlemen in easy circumstances. Remedies against gout, liver complaints, rheumatic ills, the ills of horses and sheep and pigs, respirators for Londoners in fog, indigestion remedies, seltzer waters, guns, cartridges, saddlery, coach-builders—these comprise the bulk of the advertisements. In a local guide-book published in 1880, which carries twenty pages of advertisements—about 100 in all—the only direct and exclusive appeal to women is made by "Widow Welch's pills."

Rimmel's perfumery and Savory and Moore's Food for Infants—"the perfect substitute for Mother's Milk as used in the Royal Nurseries." All the rest (over ninety) more or less directly appeal to the country gentleman and farmer.

Less than half a century later, I suppose, the ratios had been reversed, and at least 80 per cent. of trade advertisements to-day are designed to catch women, even when they feature articles which the menfolk pay for—such as motor cars. It may be that patent medicines still hold first place among advertisements, but their proportion is greatly reduced by the bulk and variety of other commodities advertised, and one is no longer left with the impression, clearly current in 1880, that the country squire, by the time he reached middle age, was almost certain to be the victim of his own intemperance in diet, and was a perpetual martyr to his liver, to gout, rheumatism, indigestion, sick headache and every form of internal poisoning.

Who, I wonder, was the shrewd business man who first discovered that the surest channel through which to recommend his wares, even if those wares were men's prerogatives, was the wife or mother?

Seed for Plantations.—This war at least is bringing us back to first things and essentials, and teaching some of us how the wheels of Nature and man-made machines go round. The Forestry Officer called in on me yesterday; he had been jealously viewing my remaining fir plantations. He called in to ask for "seed." "Seed?" I asked, puzzled. "Yes," he said: "unless we can get seed for our forestry plantations, from this country and soon, our forestry programme will break down. We want from you seed for larch, spruce, Scots and Corsican pine."

"But," I said, "I haven't got any seed." "Haven't you?" said he. "Send out the children with sacks and pick the fir-cones from the branches of the lately felled trees on 'your own and your neighbours' ground. The seed is there all right. The old dry cones have lost their seed and you can go on burning them as kindling wood. But we want *tons* of seed-carrying cones." Well, he shall have them.

I was instantly reminded of *Rodney Stone* and the little picture therein of Collingwood with his bag of acorns planting "ships-of-the-line" in every likely spot where the wooden walls of England could grow to maturity for a posterity which, in fact, would not need oaks for that purpose. But still we need wood and shall need it, and (it appears) fir plantations are cheaper in the long run than self-sown woods of fir, despite the legend that rabbits won't touch the self-sown nurslings and destroy the young plantations.

J. G.

ONCE A GLORY OF CHIPPING CAMPDEN, BUT ILL-TREATED NOW: Our correspondent writes further: "This was the appearance of picturesque Payton House a little while ago, but since it was handed over for the use of the military a great change for the worse has taken place. Most of the windows are broken, gaping sandbags are littering the staircase, the walls are covered with chalk-marks and initial-carvings. One does not blame the soldiers; one does blame those higher up who think nothing of the Cotswold beauties around them and in which they are privileged to reside temporarily. What are we fighting for, anyway? Too little has been published about the bad effects of military occupation of beauty spots"

A PLEA FOR CHIPPING CAMPDEN IN GLOUCESTERSHIRE: A correspondent sends us the pictures reproduced here, with the following note: "Venerable houses of the seventeenth century, these Almshouses are an asset to the beauty of the village. *But*, the chimneys are falling down, some of the houses are unfit to live in, the others are lonely for the occupants left, the stone floors require re-flagging. Why not let the necessary work be the War Memorial for this war? One thousand pounds would probably do the work easily. The folk still have to get their water from an outside pump. Why not bring in some twentieth-century ideas for these old places?"

THE ROOF OF AN OLD HOUSE IN CHIPPING CAMPDEN WHICH IS FALLING IN

Pain after Meals

Is your stomach still struggling with your last meal? You 're gasping with wind and doubled up with indigestion. Why? Because your stomach is always too acid. It sours every mouthful. It turns meat into leather. You can stop these agonising attacks this very day by taking 'Milk of Magnesia' Tablets. They relieve acidity at once. No matter what you eat, your stomach makes easy work of digesting it. No sour repeating, no heartburn, no flatulence, not a twinge of your old agony.

What about your next meal? Are you going to submit to torture when 'Milk of Magnesia' Tablets will save you? Make that meal the test. Get a box of the Tablets now and have them in readiness. You 'll be thankful you tried them. Neat flat boxes for the pocket. Also family sizes. Obtainable everywhere.

'MILK OF MAGNESIA' BRAND TABLETS

SLIP A BOX IN YOUR POCKET OR BAG

'Milk of Magnesia' is the trade mark of Phillips' preparation of Magnesia.

THERE IS NO SAFER PLACE THAN A CHUBB SAFE

THERE IS NO SAFER PLACE THAN A CHUBB SAFE

The friend that never fails

Friend of the penniless, the young, the old, the sick, the friendless, the fatherless . . . The friend quietly waiting everywhere to help and cheer the unfortunate. . . . The Salvation Army.

Please remember the work it is doing—and help!

Gifts and Enquiries welcomed by General George Carpenter, 101, Queen Victoria St., London, E.C.4

THE SALVATION ARMY

THAT COLD is a case for VAPEX

Don't yield to invading cold germs. Attack their breeding places, at the back of nose and throat, with Vapex. A drop on your handkerchief provides a pleasant, powerful, penetrating, antiseptic vapour, deep-breathed to destroy germ colonies. Stuffiness and congestion are quickly relieved; entire respiratory system is stimulated to dispel cold naturally—safely.

From your Chemist, 2/3 and 3/4 including Purchase Tax

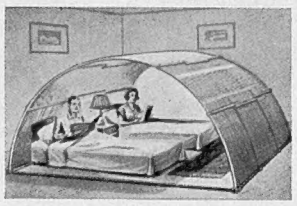
THOMAS KERFOOT & CO. LTD.

V203

THE NATION CANNOT AFFORD COLDS

The Hull TUBULAR INDOOR AIR-RAID SHELTER

An ideal SHELTER at all times—but essential during WINTER months



SLEEP MORE SAFELY IN YOUR OWN HOME

We have pleasure in informing numerous enquirers that material has now been made available by the Ministry of Supply for the manufacture of a limited number of these well-known indoor Shelters. Two Models.

Orders will be executed in strict rotation.

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The World of Books—By Vernon Fane

MINISTERIAL MIRTH

Red Tape and Birdseed; Fun with the Civil Service; A Fine Californian Tale and a Grim Scottish One

ONE of the sounds which it is popularly supposed could be heard in Whitehall in September, 1939, was the Civil Service stirring in its sleep. It is generally agreed that as a peace-time institution the Civil Service is to be admired and respected on many counts; but that in a war the bureaucratic machine is supposed to creak and groan and not stand up too well or too willingly to the administrative shocks which swift improvisation is apt to give it.

On the score of ridicule, bureaucracy, with its slow-moving and non-adaptable structure, and with its addiction to red tape, is easy prey. The only way to treat it, of course, is farcically, for at the point that it ceases to be a farce it is much too serious a subject in time of war to joke about.

Mr. Compton Mackenzie has a fine old lark at the expense of Government Departments and their methods in **THE RED TAPE-WORM** (Chatto and Windus. 8s. 6d.). In an amusing dedication he maintains, "that the worm I will call *Taenia rubra* is preying woefully upon the vitality of contemporary life everywhere." And he goes on to suggest that most men are enthusiastic victims of the parasite. Indeed, he regards it as an incurable ill, and wisely remarks that it is best for us to laugh at an incurable ill.

Mr. Apsley Howe, the newly-appointed Minister of Waste, realised that in these days it was necessary for him to go straight to the microphone and to address the nation. The Minister addressed it to some effect. He broadcast an appeal for all sorts of things: rags, bottles, bones, the contents of attics and other junk. The result was something entirely beyond the experience of his Principal Private Secretary, Mr. Oliver Huffam, a gentleman whose career had been set in the finest traditions of the Civil Service, and who was devoted to that Service. All sorts of articles converged upon the Ministry, from chamber-pots to old perambulators, and from very oily oil stoves to a bath with a hole in it. Well and truly had the Minister broadcast; and nobly had the public responded.

Poor Mr. Oliver Huffam, who had been unkindly called the Red Tape-Worm by the Minister's wife, found himself in a succession of situations and quandaries which had an appalling effect upon his customary equanimity, and which almost resulted in the ruin of a hitherto blameless career.

Mr. Compton Mackenzie has a fine sense of the ridiculous, and sustains the uproarious note throughout this farce. He also appears to know a good deal about the mysterious functions of Assistant Secretaries, Principals, Assistant Principals and even Personal Assistants. It is all very good fun, and the reader may in the end agree with him that perhaps it is better to laugh than to get worried about these things.

Mr. Bechhofer Roberts also had a crack at a similar theme in a book which he recently published under the title of *The Ministry of Wishful Thinking*. From that he has proceeded to what the publisher calls another "lavish laughter-ration," **THE BIRDSEED POOL** (Robert Hale. 7s. 6d.). This time he lampoons the governmental passion for pools of all sorts, and he imagines, in this book, that somebody had decided to pool all the birdseed in the country, the better to control and distribute it.

The idea springs from the ingenious mind of the expansive Mr. Sutton Binter, a financier of varying fortunes, who succeeds in making a corner of birdseed and of getting a hard-up young friend of his made Controller of the pool. Once established in that position, Mr. Tony Clayton finds himself thrown together with a number of widely differing types of people, who divide themselves roughly into three classes, Brahmins, Slaves and Pariahs.

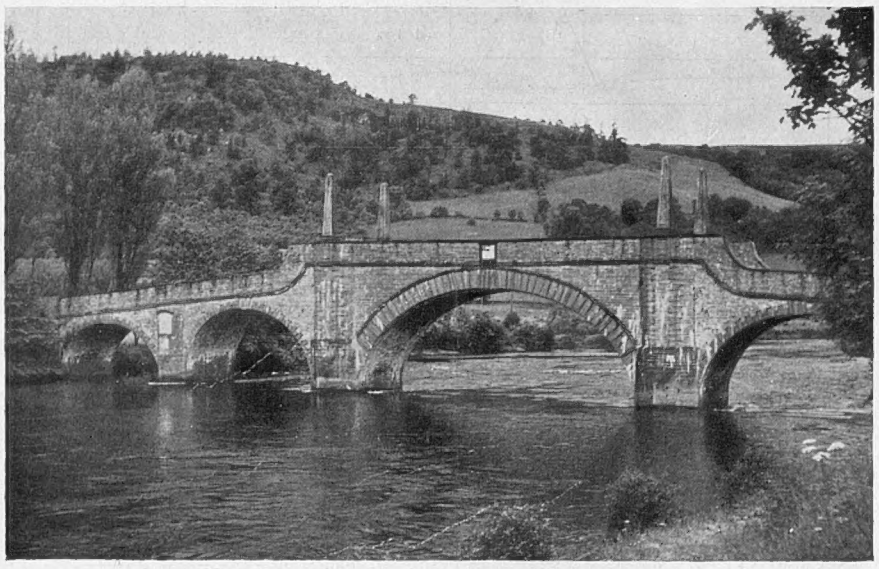
"The Brahmins are the regular Civil Servants—and don't they just know it! The Slaves are their secretaries and typists, whom they have brought with them from Whitehall; they suck up to the Brahmins, of course, poor little beasts. We temporaries—we are the Pariahs, the Untouchables, the canker in the Brahmins' lovely pool."

Mr. Roberts' farce is just as hilarious, though perhaps a little more incredible, than Mr. Mackenzie's. It is worth noting, however, that in the course of it he uses the following note, which was on a slip printed in red, and stuck across the bottom of his hero's letter of appointment.

"NOTE: Unless specifically stated to the contrary, the contents of this communication shall be deemed to have effect, as if references to the first four years, the fifth year and the last four years of the period of any period herein mentioned were respectively references to every year except the last year, the last year and every year except the first year of the period."

Mr. Roberts declares that he is indebted to the drafter of the Rating and Valuation (Postponement of Valuation) Bill, 1940, for that.

THIS WAS THE CENTRE OF LONDON'S BOOK TRADE FOR CENTURIES—THE SITE OF HISTORIC PATERNOSTER ROW AS IT IS TO-DAY: During the great fire attack on London on December 29, the area around St. Paul's suffered the greatest damage of all. The site has now been cleared of its burnt-out buildings and the ground is now almost ready for its inevitable reconstruction after the war. For three hundred years this area was the London home of the booksellers: many historic buildings have completely disappeared, but St. Paul's itself still stands—clear and solid—amidst the surrounding debris



BY CONTRAST—A PEACEFUL SCENE AT ABERFELDY, PERTHSHIRE: Following the Jacobite Rebellion of the first Pretender in 1715, it was decided to build military roads across the whole of Scotland to aid our troops in maintaining order in the wild, mountainous Highlands. General Wade was entrusted with the work, which lasted from 1726 to 1740. 250 miles of roads, carried across rivers by forty bridges, formed the first proper Scottish roads, following in most cases the routes of ancient lanes. Although most of these roads have since been rebuilt, some in the remote districts are as built by Wade. This handsome bridge over the Tay is graced by four pinnacles and bears this exhortation in Latin: "Admire this military road, stretching 250 miles beyond the Roman road, mocking moors and bogs, opened up through rocks and mountains, and crossing the indignant Tay. This difficult work General Wade, Commander-in-Chief of the Forces in Scotland, accomplished by his own skill and the ten years' labour of soldiers in the year 1733"

We are told that Mr. Peter Viertel, the author of **THE CANYON** (Collins. 7s. 6d.), is a young writer who is not yet twenty. It is a story of a boy growing up in a sun-drenched Californian village on the edge of the sea, and not far from the Canyon which is the scene of all his childhood memories and youthful associations. He is of a different calibre from the rest of the village boys, having been brought up in a better home, and has a sensitiveness and latent intelligence which are outstanding among his immediate companions.

It is, in effect, a study of adolescence, and of the interplay of character among others who are of a different type. Growing to manhood, George retains a deep feeling for the place, which was the scene of his boyish adventures, and he sees the others going their several ways, as inexorably they must.

The surprising feature of this novel is the maturity of its approach and understanding. Mr. Viertel recalls the past without sentimentality, and he handles the tougher episodes in his story with an admirable restraint.

The struggles of a small Scottish farmer, pursued by the ill-luck attendant upon bad times, form the dramatic background of Mr. John McNeillie's **MORRYHARN FARM** (Putnam. 8s. 6d.). Mort Dalzie not only has to fight his battles with nature, with poor crops and with bad markets, but is dogged by domestic misfortunes as well. He loses a little daughter through an accident, and when the farm becomes his own property his wife leaves him after attempting to burn it. As the story progresses, further misfortunes occur, his father dies, and as a result of a fight with an angry farm-hand he receives an injury which paralyses him. Thereupon he has nothing much else to do but watch his son, who is a very different character from himself, gradually assume control.

All of this sounds about as drab and grim as it could possibly be, but the basis of this novel is anything but drab, and certainly not grim. Its human values are in every sense natural, and the whole atmosphere of the book is, despite the drama, one of pleasant observation of character and of the countryside from which these characters draw their strength.

It is quite an outstanding book, written with a deep sympathy and understanding for those whose lives are lived close to the soil.

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In Quest of Good Hotels

By ASHLEY COURTENAY

"THE OLD INN," as Richard Keverne writes in his book, *Tales of Old Inns*, "is a patchwork thing: it had to be. If it were to succeed it had constantly to be modernising itself, adding new accommodation, bringing old rooms up to date by alteration and redecoration. As public tastes change, so the Inn has to change, though carrying on its business all the while. For an Inn, like a church, must never close its doors."

It is to the credit of Trust Houses, Ltd., about whose hotels Mr. Keverne has written, that they have spent vast sums in improving and restoring the houses under their banner, and however much one may praise or decry the Trust House system, the fact remains that they have done much, and will hope to do more when the war is over, to make we who journey the road increasingly comfortable.

Trust Houses are very much in my mind this week because I deplore—as hundreds of others must do—the destruction of that famous house, the George, at Portsmouth, by enemy action.

It seemed but yesterday that the Trust Houses completed most commendable improvements of a house whose walls could tell countless tales of the British Navy. But it was of a September morn in 1815 that the George played its greatest part in history. Here at sunrise Admiral Lord Nelson arrived after an all-night journey. From the bay window of the "long room" he heartened the crowds with his words. Later on the same day he was smuggled by a back stairway of the George into Penny Street and boarded his flagship, the *Victory*. And then came Trafalgar—and death.

As the leading coaching inn of the town, practically every distinguished visitor of importance must have stayed at the George, though it was to the simple but unpretentious Nelson bedroom that most people paid pilgrimage.

Fortunately England is rich in historic inns, and the fact that they are scattered up and down the land gives us hope to believe that they will be spared the fate of the Wren churches.

The George is one of the most common in name to be found up and down the country, and what a host of history is to be discovered by visiting George hotels alone! Though Queen Elizabeth would seem to have spent her time sampling hotel beds, there is no question about it that she visited, even if she did not sleep at, the George at Cranbrook in Kent. Cranbrook in her days was a prosperous cloth-weaving town, and after she had accepted a silver cup presented by the town's rich clothiers, tradition has it that she walked a mile from the George to Coursehorne Manor on a specially woven grey broadcloth carpet which the clothiers had manufactured for the purpose.

Another familiar George is that at Crawley, on the Brighton Road, with its famous gallows signpost stretching across the highway. It was only just prior to the war that the Crawley bypass was opened, and so the George should see no more that jam of traffic which made it a place to be avoided. Like many another old coaching inn, its business was enormous at the end of the posting era; then came the advent of the railroad, and it was not until the coming of the motor-car that the George revived.

But Trust Houses have by no means the monopoly in George hotels. The Old George at Salisbury is a first-rate example of an hotel which has still plenty to show of its historic past but which, at the same time, has blended into its structure every modern comfort. Instead of "beds classed according to the number of planks, amounting from two to five in each bed" (see John Grymes's lease of 1473), one can have an interior-spring mattress, hot- and cold-water basins, central heating and, before switching off the bedside light, one can gaze on old beams and other evidence of a mellowed past.

Old churches and old inns have a close link when the latter were mediæval hostels, and a famous example is the George at Glastonbury. Deep mullioned windows and wide doorways enriched by Gothic tracery are indicative of the same workmanship as the artists and craftsmen who built the Abbey.

The George at Glastonbury was built by one Abbot Selwood. He called it the "*Novun Hospitium*," and it was set aside for middle-class pilgrims. Free accommodation was given for two days and nights, but after that there was a charge. History does not relate when such incidentals as early-morning tea and baths first featured in the traveller's account!

The story of old inns is indeed a fascinating one, and those who are interested should acquire, in addition to Mr. Keverne's book mentioned above, a copy of Mr. George Long's *English Inns and Roadhouses*, published by T. Werner Laurie. It contains 234 photographs taken by the author and was first published in 1937. I notice that the book is dedicated to "My Son." I hope he is following in father's footsteps.

ANSWERS TO CORRESPONDENTS

W. E. J., Torquay.—You cannot expect to get good accommodation these days at under 3½ guineas a week. The following are small, excellent in their own category and run from 3½ guineas a week: the Wide Sea Guest House, near Downderry, South Cornwall; the Old Inn, Widecombe-in-the-Moor, South Devon; Bloomfield Guest House, Fenny Bridges, near Honiton; the Blackbird Inn, West Buckland, near Taunton.

H. N., Burma.—I was interested to have your enquiry regarding the Stag Hunters Inn at Brendon, North Devon. I have just been there. Mr. Totterdell is still presiding over its destinies, and a very excellent "mine host" he is. Although it must be some twenty-five years when you happened to be Mr. and Mrs. Totterdell's first visitor, they remembered you well and are looking forward to seeing you again. The Stag Hunters Inn still owns six miles of fishing in the Lyn, and trout-fishing starts March 1 and carries on until September 30. There is still stag-, fox- and otter-hunting to be had, and the weekly terms now run from 4 guineas. There is room at the inn now, for whilst many small places are full up these days, because of their comparative safety, a good many town-dwellers think twice about evacuating to the Stag Hunters Inn, for the nearest station—Minehead—is sixteen miles away.

Mr. Ashley Courtenay is always pleased to advise "Sphere" readers of hotels, both large and small, known to him personally. Letters, accompanied by a 2½d. stamp for reply, should be addressed to him, c/o the Editor, THE SPHERE, *32-34, St. Bride Street, London, E.C.4. Personal and telephone inquiries, however, cannot be accepted.*

THE SHAFTESBURY HOMES AND "ARETHUSA" TRAINING SHIP

During the month of January, the Staff of this Society have for a great number of years been accustomed to meet at the office for a Prayer meeting and social tea; unfortunately, present circumstances have prevented this gathering this year, and so the opportunity of United prayer for the work of the Homes and *Arethusa* during the coming year has not arisen. The Committee, however, hope that all the friends of the Society will remember the children and staff in their daily prayers in these dangerous times. The Shaftesbury Homes and *Arethusa* Training Ship, 164, Shaftesbury Avenue, W.C.2.

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ENJOYABLE READING FOR DULL DAYS

"Genghis Khan, the Greatest of Rulers"

Written and Illustrated by
F. Matania, R.I.

Temujin, together with his brother, Kassar, had disappeared. A track in the snow was perceived and followed by the marauders, who were confident that they would soon effect the capture of their quarry, for only the possession of fresh horses would have enabled the boys to make good their escape.

For several days, however, the pursuers were baffled; but then hunger forced Temujin to make a desperate effort to break through the lines of the enemy. Failure of his effort resulted in his capture.

Brought before the chief, he was condemned to await his sentence imprisoned in a "kang," a kind of wooden yoke which encompassed his neck and shoulders and gripped his wrists.

When darkness fell Temujin was left in a tent with one guard, and the resourceful boy decided to chance his luck rather than wait to be slaughtered like a sheep. With a sudden turn of his body he struck the guard a heavy blow on the head with the very instrument in which he himself was imprisoned. He then made for the open country. It was not easy under such conditions, hampered by the weight of the "kang," to outdistance the pursuers who were on his heels. Finding himself surrounded, he plunged into the icy water of a river. Despite the impossibility of keeping his head below water, he succeeded in escaping notice by all save one . . .

Also in the FEBRUARY issue:

"FIXED POST," by Arthur Mills.
"A SPOT OF LATIN," by A. M. Burrage.
"THE THINGS WE LIVE FOR," by Negley Farson.
"WAR'S SPOTLIGHT ON THESE WOMEN," by Ferdinand Tuohy.
"UNRECORDED HISTORY," by Gordon Beckles
"SHIP MODELS," by Frank C. Bowen.

"The Quest of the Golden Fleece"

By W. E. Johns

She sighed. "I could be very, very happy—with you."

"In what part of Normandy do you live?" he inquired.

She hesitated for a moment, her eyes on his face. "Le Chateau Tourette—you know it perhaps?"

"Rather. It's quite a landmark."

"It belongs to my father."

"Really?"

"Yes, poor old man. I wonder what he's thinking now."

"I wonder," murmured Cedric.

She sighed. "If only I could see him again."

"Not much chance of that just yet, I'm afraid."

"You couldn't think of any way I could get a message to him?"

Cedric thought for a little while. "No, darling, I'm afraid I couldn't."

"I have thought about it so much. I am always thinking of it. I think there is a way, only one way—if I could get a friend to do it for me."

"Do what?"

"No—no. It isn't worth talking about. No one would do it. It's too risky." She nestled a little closer.

Cedric stroked his chin. "What was your idea, mignon?" . . .

Some men risk their life for love but Cedric risked his life to revenge the death of his friend.

"A DREAM OF MARS," by C. Patrick Thompson.
BOOKS, reviewed by Noel Thompson.
"FASHIONS," by Jean Burnup.
"CASSEROLE COOKERY," by Harriet Muir.
"TOMORROW'S PROFESSION FOR WOMEN," by Joan Woollcombe.
"WAR PAINT FOR YOUR HOME."
"KNITTING SECTION—THREE SMART JUMPER DESIGNS."
"PLANNING A HERB GARDEN."

"Bride of a Lancer"

By Cecilie Leslie

The door opened abruptly, and her father stood before them, his oilskins slung limply over his shoulder, and there were smears of grease on his bald head.

"Where's your mother, Mary?" he asked, and seeing the girls, gave them an apologetic smile.

"She's in her room," said Mary casually. She looked more closely at him. "Why . . . *Father!*"

Mary ran to him, stumbling over the train of her wedding dress. Her hand touched his arm, and she drew it away feeling moisture on her palms. She looked at it bewildered: her hands were spattered with blood.

"It's nothing, nothing at all," he replied, smiling. "We had a go at them at last, the dagont varmints. . . ."

Mary was willing to sacrifice that most dear to a woman—her life's happiness—so that she could share the dangers of her country.

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